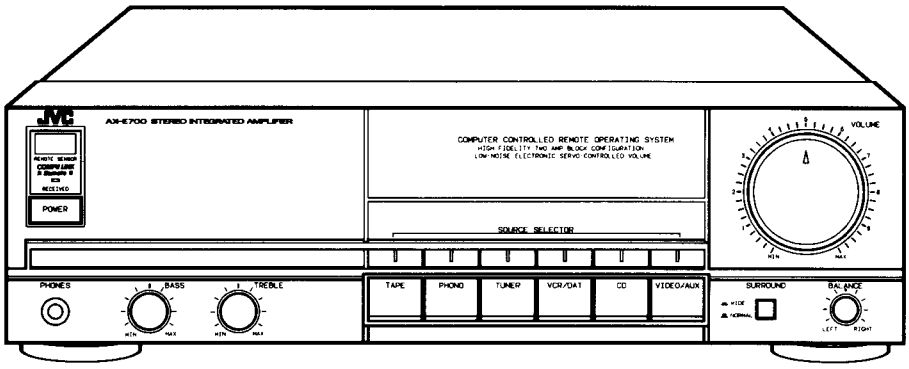
JVC

SERVICE MANUAL

STEREO INTEGRATED AMPLIFIER

MODEL No. AX-E700BK



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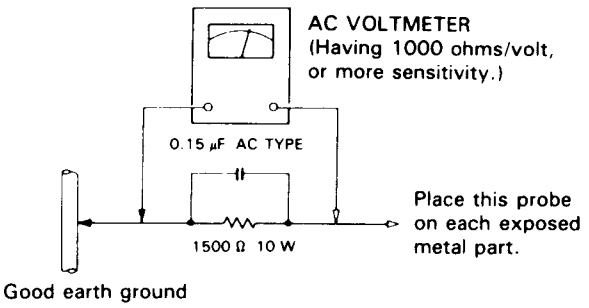
No. 20047
Apr. 1988

Safety Precautions

1. The design of this product contains special hardware and may circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).


AC VOLTMETER
(Having 1000 ohms/volt, or more sensitivity.)
0.15 μF AC TYPE
1500 Ω 10 W
Place this probe on each exposed metal part.
Good earth ground

Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Specifications

AX-E900BK
OVERALL CHARACTERISTICS

Output power

70 Watts per channel into 8 ohms at 1 kHz (DIN).

65 watts per channel, min. RMS, both channels driven, into 8 ohms from 40 Hz to 20 kHz, with no more than 0.9% total harmonic distortion.

35 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.08% total harmonic distortion. (measured by JVC Audio Analyzer System)

Power band width	: 10 Hz – 30 kHz (IHF, 0.9%, 8 ohms both channels driven)
Frequency response	: 5 Hz – 80 kHz +1, –3 dB (8 ohms)
Input terminals	
Input sensitivity/ impedance (1 kHz)	
PHONO	: 3.0 mV/47 kohms
CD/AUX/ TUNER/TAPE	: 150 mV/47 kohms
Signal-to-noise ratio	
PHONO	: 70 dB ('66 IHF)
CD/AUX/ TUNER/TAPE	: 98 dB ('66 IHF)
PHONO	: 67 dB (DIN)
CD/AUX/ TUNER/TAPE	: 68 dB (DIN)
Tone controls	: TREBLE: +8 ±1 dB, –8 ±1 dB (at 10 kHz)
	BASS: +8 ±1 dB, –8 ±1 dB (at 100 Hz)

EQUALIZER

PHONO overload capacity	
PHONO	: 100 mV (0.02% THD)
PHONO RIAA deviation	
PHONO	: ±0.8 dB (20 Hz – 20 kHz)
Recording output	
Output level	
TAPE REC	: 150 mV

GENERAL

Dimensions	: 360 (W) x 103 (H) x 307 (D) mm (14-3/16" x 4-1/16" x 12-1/8")
Weight	: 5.7 kg (12.6 lbs.)

Design and specifications subject to change without notice.

AX-E700BK
OVERALL CHARACTERISTICS

Output power

50 Watts per channel into 8 ohms at 1 kHz (DIN).

45 watts per channel, min. RMS, both channels driven, into 8 ohms from 40 Hz to 20 kHz, with no more than 0.9% total harmonic distortion.

25 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.08% total harmonic distortion. (measured by JVC Audio Analyzer System)

Power band width	: 10 Hz – 30 kHz (IHF, 0.9%, 8 ohms both channels driven)
Frequency response	: 5 Hz – 80 kHz +1, –3 dB (8 ohms)
Input terminals	
Input sensitivity/ impedance (1 kHz)	
PHONO	: 3.0 mV/47 kohms
CD/AUX/ TUNER/TAPE	: 150 mV/47 kohms
Signal-to-noise ratio	
PHONO	: 70 dB ('66 IHF)
CD/AUX/ TUNER/TAPE	: 98 dB ('66 IHF)
PHONO	: 67 dB (DIN)
CD/AUX/ TUNER/TAPE	: 68 dB (DIN)
Tone controls	: TREBLE: +8 ±1 dB, –8 ±1 dB (at 10 kHz)
	BASS: +8 ±1 dB, –8 ±1 dB (at 100 Hz)

EQUALIZER

PHONO overload capacity	
PHONO	: 100 mV (0.02% THD)
PHONO RIAA deviation	
PHONO	: ±0.8 dB (20 Hz – 20 kHz)
Recording output	
Output level	
TAPE REC	: 150 mV

GENERAL

Dimensions	: 360 (W) x 103 (H) x 307 (D) mm (14-3/16" x 4-1/16" x 12-1/8")
Weight	: 5.2 kg (11.5 lbs.)

Design and specifications subject to change without notice.

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption	
		AX-E900BK	AX-E700BK
U.K.	AC 240 V ∿, 50 Hz	394 watt	330 watts
Australia			
Continental Europe	AC 220 V ∿, 50 Hz	180 watts	153 watts
Saudi Arabia	AC 127 / 220 V ∿ selectable, 50/60 Hz		
Other areas	AC 110 / 120 / 220 / 240 V ∿ selectable, 50/60 Hz		

FRONT PANEL

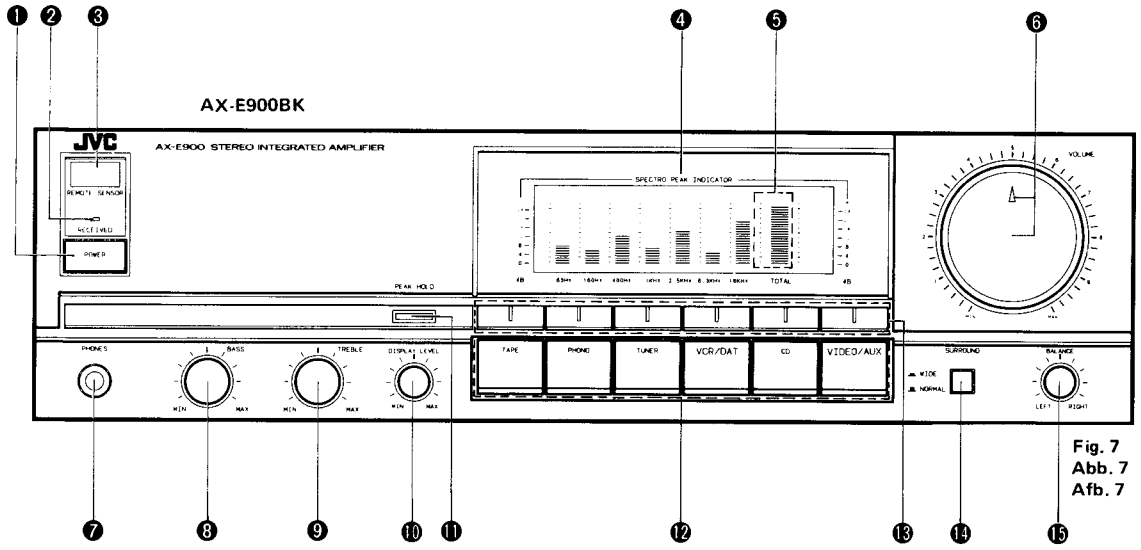


Fig. 7
Abb. 7
Afb. 7

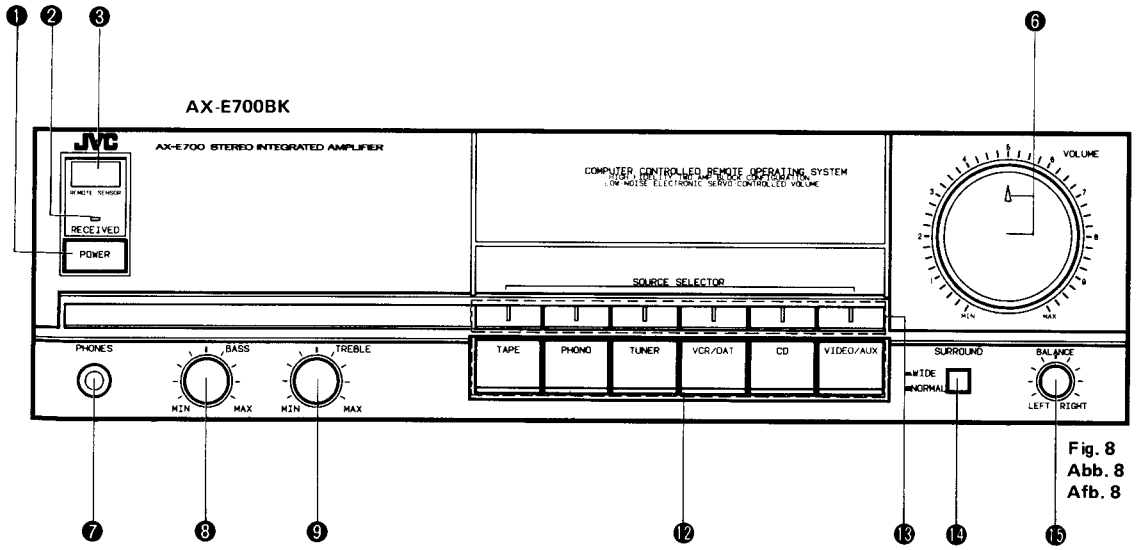


Fig. 8
Abb. 8
Afb. 8

❶ **POWER**
ON (▬): Press this button to turn the power on.
OFF (▟): Set to this position to turn the power off.

Notes:
- **An electronic source selector is used in this unit. When the POWER button is first switched on, two or more sources or no source at all may be selected. Make sure to select correct source by pressing the desired source button.**
- **If the POWER button is pressed repeatedly on and off too quickly, the same phenomenon as described above will occur.**

❷ **RECEIVED indicator**
This indicator lights when information is being received from the remote control unit.

❸ **REMOTE SENSOR**
This window receives signals from the remote control unit. Do not obstruct it.

❹ **Spectro peak indicator (AX-E900BK only)**
The output signal levels are analyzed for 7 frequency bands. The Spectro peak indicator shows the output signal level in each frequency band. For care of viewing, the indicator is designed so that its response time is faster when rising and slower when decaying.

❺ **TOTAL-Spectro-Peak-indicator (AX-E900BK only)**
This indicator indicates the output signal level.

❻ **VOLUME and INDICATOR**
Controls the volume of the speakers and headphones. This indicator lights when the POWER button is pressed on.

❼ **PHONES (headphone jack)**
Plug stereo headphones into this jack for private listening.

❽ **BASS**
Turn clockwise to boost bass response and counterclockwise to decrease it.

❾ **TREBLE**
Turn clockwise to boost treble response and counterclockwise to decrease it.

❿ **DISPLAY LEVEL (AX-E900BK only)**
Adjust the relative display position on the Spectro peak indicator so that especially weak or strong level signals can be displayed in an easy-to-see position. This volume has no effect on the output sound level.

⓫ **PEAK HOLD (AX-E900BK only)**
This button is pressed to enable the holding of the peak values of each of the Spectro peak indicator for about 3 seconds.

⓬ **SOURCE SELECTOR**
TAPE: Press to listen to a cassette deck connected to the TAPE terminals.
PHONO: Press to listen to a turntable connected to the PHONO terminals.
TUNER: Press this button to listen to a radio broadcast.
VCR/DAT: Press this button to listen to the sound of the VCR or DAT deck connected to the VCR/DAT terminals.
CD: Press this button to listen to a compact disc player connected to the CD terminals.
VIDEO/AUX: Press this button to listen to the sound of the VIDEO DISC etc. connected to the VIDEO/AUX terminals.

⓭ **SOURCE indicator**
The indicator light corresponding to the pressed source selector button.

⓮ **SURROUND**
Press this button to WIDE (▬) with a stereo signal for an expanded sound field. Usually set this switch to NORMAL (▟).

Notes:
- **When a 4 channel surround music is played with surround speaker connected, switch over the speaker connection switch of the rear panel to (A+B) side before hand.**
- **However, when the audio source is monaural, no surround effect will be obtained.**
- **Sound from the surround speakers cannot be recorded on the tape.**

⓯ **BALANCE**
Use to adjust the balance between the left and right speakers.
This knob is normally set to the center click position.

OPERATION

Before use
Connect each component correctly, then plug the power cord to the AC wall outlet.
Basic operation
1. Press the POWER button on.
2. Proceed through the steps described below.
3. Adjust the volume and balance for the desired sound levels.
4. Use the BASS and TREBLE volumes to obtain the tone you wish to hear.
5. When the SEA graphic equalizer is connected to the unit, use it to adjust the tone quality.

Listening to broadcasts
1. Press the TUNER button so that the TUNER indicator lights.
2. Operate the Tuner as described in its Operation Manual.

Listening to records
1. Press the PHONO button. The PHONO indicator will light.
2. Operate the turntable as described in its operation manual.

Notes:
- **Use a turntable with an MM cartridge.**
- **If your turntable has a separate ground lead, connect it to the GND terminal.**

Listening to compact discs
1. Press the CD button. The CD indicator will light.
2. Operate the CD player as described in its operation manual.

Listening to tapes
1. Press the TAPE button so that the TAPE indicator lights.
2. Operate the cassette deck for playback as described in its operation manual.

Listening to DAT
1. Press the VCR/DAT button so that the VCR/DAT indicator lights.
2. Operate the DAT deck as described in its operation manual.

Listening to VIDEO DISC etc.
1. Press the VIDEO/AUX button so that the VIDEO/AUX indicator lights.
2. Operate the video disc player etc. as described in its operation manual.

Listening to a VCR
1. Press the VCR/DAT button so that the VCR/DAT indicator lights.
2. Operate the VCR for playback as described in its operation manual.

Recording tapes
– Recording from records –
1. Press the PHONO button so that the PHONO indicator lights.
2. Operate the turntable.
3. Operate the cassette deck for recording.

Note:
- **The sound you hear from the speakers or headphones is the source sound, not the recording on the tape.**

– Recording from other sources (CD, TUNER, VCR, VIDEO DISC, etc.) –
Press the button corresponding to the source to be recorded. All other operations are identical to those when recording from records.

Using stereo headphones
Stereo headphones can be plugged into the front panel jack. The signal from this jack is independent of the speakers.
Plug stereo headphones into this jack for private listening.

REMOTE CONTROL UNIT (RM-SE900)

RM-SE900

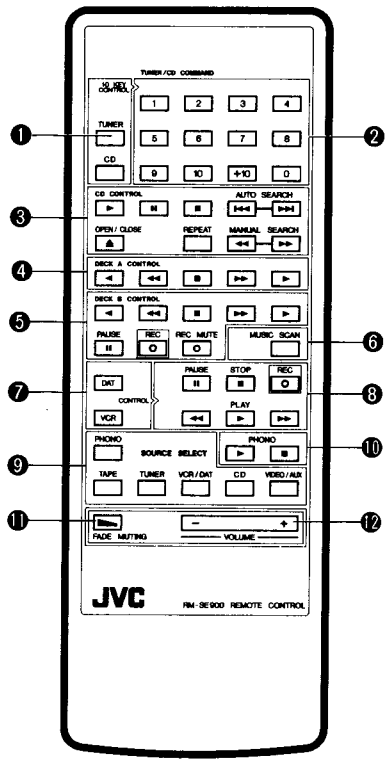


Fig. 12

❶ 10 KEY CONTROL
TUNER ❶ : Press this button to use the 10 key ❷ as a tuner 10 key operation button.
CD ❶ : Press this button to use the 10 key ❷ as a CD 10 key operation button.

❷ 10 KEY (1 ~ 10 , 0 , +10)
These buttons are for directly accessing the FM/AM preset stations, and for selecting the CD track No. Use this button to assign the CH numbers or track numbers (1 ~ 10) of a disc which is to be played or programmed. To assign, a track number greater than 10, use a combination of the +10 button and numeric button.

Examples:
5: Press numeric button 5 .
10: Press numeric button 10 .
17: Press the +10 button once and numeric button 7 .
20: Press the +10 button once and numeric button 10 . Or press the 0 button after pressing the +10 button twice.
25: Press the +10 button twice and numeric button 5 .

❸ CD CONTROL
Play (▶): Press this button to play a compact disc.
Pause (❚❚): Press this button to temporarily stop play. To start play again, press the Play (▶) button.
Stop (■): Press this button to stop play. The standby mode will be entered.

AUTO SEARCH (⏮) (backward): Press once during play to return the unit to the start of the current tune. Press twice to return the unit to the start of the previous tune. Each time this button is pressed, the unit moves backward by one selection. Keeping this button continuously pressed will return the unit to the beginning of the disc. Pressing this button to return to the beginning of the disc.
AUTO SEARCH (⏭) (forward): Press once during play to move the unit to the start of the next tune. Each time this button is pressed, the unit moves forward by one tune.
OPEN/CLOSE (⏏): Press this button to open or close the disc tray. Pressing this button during play stops play and the disc tray slides out.
REPEAT: Press this button to play the CD repeatedly
MANUAL SEARCH (◀◀) (backward): Press to search for the desired selection in the reverse direction.
MANUAL SEARCH (▶▶) (forward): Press to search for the desired selection in the forward direction. Sound will be heard at a reduced level while search is taking place from the play mode.

❹ DECK A CONTROL
(◀◀): Press to quickly wind the tape from the right to the left reel.
(■): Press to stop the tape.
(▶▶): Press to quickly wind the tape from the left to the right reel.
(▶): Press to play the tape in the forward direction.
(◀): Press to play the reverse direction of the tape.

❺ DECK B CONTROL
For (◀◀), (■), (▶), (◀), and (▶▶), the operation is the same as that for DECK A.
PAUSE (❚❚): Press to temporarily stop the play or recording modes. To restart, press the play button.
REC (○): To record, press the PLAY (▶) button while holding down this button.
REC MUTE (○): Press this button to create a non-recorded section between songs.

❻ MUSIC SCAN ( )
Press this button together with the (▶▶) or (◀◀) of tape deck A or B to briefly play the beginning of each selection.

❼ CONTROL
VCR : Press this button to operate a VCR which is connected to the VCR/DAT terminals.
DAT : Press this button to operate a DAT deck which is connected to the VCR/DAT terminals.

Note:
- **Connect the remote cable of the digital audio tapedeck to the COMPU LINK-1/ SYNCHRO terminal of this unit.**

❽ VCR/DAT CONTROL (VCR or DAT)
PAUSE (❚❚): Press this button to pause during playback or recording. To cancel PAUSE, press the PLAY botton.
STOP (■): Press this button to stop operation.
REC (○): To record, press the PLAY (▶) button while holding down this button.
(◀◀): DAT DECK: Press this button to quickly wind the tape from the right to left reel.
VCR: From the stop mode, press this button to rewind tape. From the playback mode press this button for to view high speed reverse play. (Shuttle search.)
PLAY (▶): Press this button to play a tape.
(▶▶): DAT DECK: Press this button to quickly wind the tape from the left to right reel.
VCR: From the stop mode, press this button to take VCR to the fast forward mode. From the playback mode, press this button to view high speed forward play. (Shuttle search.)

❾ SOURCE SELECT
This function is similar to the ⓬ SOURCE SELECTOR at page 17. For components with COMPU LINK, the selected unit will start playing while the previously selected unit stops playing.
For components without the COMPU LINK feature, such as a VCR or a video disc player, only the source selector changes in response to the button pressed.

❿ PHONO
(▶): Press this button to start playing a record on the turntable.
(■): Press this button to stop playing a record.

⓫ FADE MUTING ( )
Pressing this button to lower the volume in steps. The volume continues to decrease each time this button is pressed.

⓬ VOLUME (− +)
Press the + button to increase the volume and the − button to decrease it. When these buttons are pressed, the VOLUME knob on the amplifier rotates to register the new volume level and during rotating the knob's indicator blinks.

HOW TO USE THE REMOTE CONTROL UNIT (RM-SE900)

- The "COMPU LINK" component system is composed of the following: Tuner, CD player, Cassette deck, Record player and DAT deck. All interconnect to the COMPU LINK-1/SYNCHRO terminals.
- Each "COMPU LINK" component can be put into operation by merely operating the appropriate button on the remote control unit. It is not necessary to press the source selector button on the amplifier.

  Example:
  While a CD is playing you press the tape play button. The CD will stop playing and the tape playback will start.

Note:

- **If the component already in playback happens to be a device without the "COMPU LINK" feature, it will keep on playing. To stop a COMPU LINK device (which may be a VCR) press its STOP button.**
- The remote control unit works best when it is aimed straight at the remote sensor of the amplifier. (The control unit is model RM-SE900 and the amplifier is model AX-E900BK or AX-E700BK.)
  If the signal sent by the remote control unit is received by two or more components, the components may hesitate to start up. If this should occur keep pressing the button until all of the target components start. If the target components are far apart, they may not be able to receive the remote control signals simultaneously, therefore some of them may remain inactive. In such a case, re-aim the control unit to the remote sensor of each inactive component and press the appropriate button. (RM-SE900)
- The remote control unit has no memory capability. Thus, memory programming, if desired, must be done at the component level, which can be either Tuner, CD player or DAT player.

To listen to AM or FM radio broadcasts (Fig. 13)

1. **10 KEY CONTROL** ❶ [TUNER] : Pressing this button sets these buttons in FM or AM mode, 10 KEY: ([1] ~ [10] , [+10] , [0] .)

Note:

- **The amplifier source selector automatically switches over to "TUNER".**

2. ❷ [1] ~ [10] , [+10] , [0] : Of the preset channels, programmed in the tuner, check the number of the channel of your choice, and press the button corresponding to that channel number.

   Examples:
   Channels 1 ~ 10:
   For Channel 5, press numeric button [5].
   For Channel 10, press numeric button [10] .
   Channel 17: Press [+10] button once and then numeric button [7] .
   Channel 20: Press [+10] button once and then numeric button [10] . Or press the [0] button after pressing the [+10] button twice.
   Channel 25: Press [+10] button twice and then numeric button [5].

• FM/AM broadcast

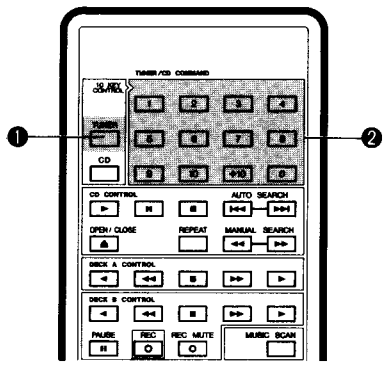


Fig. 13

To play CD (Fig. 14)

10 KEY CONTROL ❶ [CD] : To select a track by number on the CD, press the [CD] button first, then press the 10 KEY ([1] ~ [10] , [+10] , [0]) ❷ buttons for the desired selection.

1. ❸ **CD CONTROL** ([▶]): Press this button to start play.
2. ❸ [■] : Press this button to stop play.
3. **AUTO SEARCH** ❸ ([⏮]): Pressing this button interrupts the selection being played and returns to the beginning of that selection.
   AUTO SEARCH ❸ ([⏭]): Pressing this button interrupts the play and brings the CD to the start of the next selection.
4. **MANUAL SEARCH** ❸ ([◀◀]): Press this button for fast reverse of the CD during play or pause modes.
   MANUAL SEARCH ❸ ([▶▶]): Press this button to fast forward the CD during play or pause modes.
5. **REPEAT** ❸ ([ ]): Press this button to repeat the play of the whole disc or of the selected tune.
6. **OPEN/CLOSE** ❸ ([⏏]): Press this button to load or unload the disc platter.

• CD player

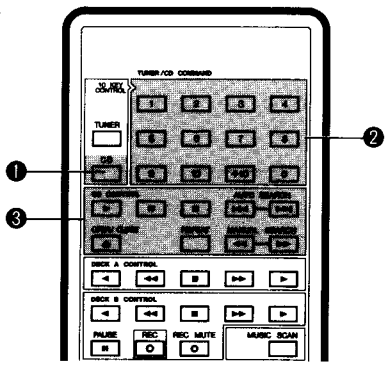


Fig. 14

To play cassette deck

DECK A CONTROL (Fig. 15)

1. ❹ [◀] : Press to play the reverse direction of the tape.
2. ❹ [◀◀] : Press to quickly wind the tape from the right to the left reel.
3. ❹ [■] : Press to stop the tape.
4. ❹ [▶] : Press to play the tape in the forward direction.
5. ❹ [▶▶] : Press to quickly wind the tape from the left to the right reel.

DECK B CONTROL (Fig. 15)

1. ❹ [◀] , [◀◀] , [■] , [▶▶] , [▶] : The functions of these buttons are the same as those of DECK A.
2. ❹ [❚❚] : Press this button to pause tape running. Press this button simultaneously with the REC [○] button to allow the deck to enter the recording wait status. Press the [◀] or [▶] button to cancel pause and to start recording.
3. **REC** ❺ ([○]): Press either the [◀] or [▶] button while pressing this button to start recording.
4. **REC MUTE** ❺ ([○]): Press this button to omit unwanted recording during the recording mode or to insert a blank space between programs.

MUSIC SCAN

1. ❻ [ ] : Press either the [◀◀] or [▶▶] button of DECK A or DECK B simultaneously with this button to find the start of a program.

Note:

- **For details, see the "instruction of cassette deck".**

• Cassette deck

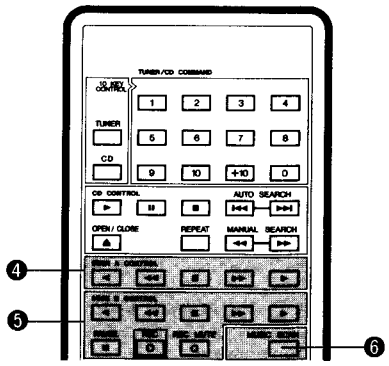


Fig. 15

To play DAT or VCR (Fig. 16)

1. Press the ❼ [DAT] button to control the DAT deck or the ❼ [VCR] button to control the VCR.

Note:

- **Point the front end of the Remote Control Unit directly at the remote sensor of the VCR when operating the VCR.**

DAT (Fig. 16)

1. **CONTROL** ❽ [DAT] : Pressing [DAT] button makes the control buttons ❽ control the DAT deck.
2. **PLAY** ❽ ([▶]): Press this button for DAT playback.
3. **STOP** ❽ ([■]): Press this button to stop the DAT deck.
4. **PAUSE** ❽ ([❚❚]): Press this button pauses the DAT deck when it is the play back mode.
   PLAY ❽ ([▶]): Pressing this button resumes the recording operation that was interrupted by pause.
5. ❽ [◀◀] : Press this button to set the tape to rapid wind into the left cassette reel.
   ❽ [▶▶] : Press this button to set the tape to rapid wind into the right cassette real.
   REC ❽ ([○]) **+ PLAY** ([▶]): Pressing [▶] button while keeping [○] button pressed commences recording.
   REC ❽ ([○]) **+ PAUSE** ([❚❚]): Pressing these buttons, [○] and [❚❚] , at the same time pauses the recording operation.
   (Recording can be resumed at anytime.)

VCR (Fig. 16)

1. **CONTROL** ❼ [VCR] : Pressing this button makes the control button ❽ control the VCR.
2. **PLAY** ❽ ([▶]): Pressing this button puts the VCR into playback.
3. **STOP** ❽ ([■]): For stopping the VCR.
4. **PAUSE** ❽ ([❚❚]): Pressing this button while the VCR is in playback switches its mode to STILL.
   PLAY ❽ ([▶]): To cancel PAUSE, press PLAY button.
5. ❽ [◀◀] : Press this button to rewind the tape.
   ❽ [▶▶] : Press this button to set the tape in rapid forward motion. When the tape is in the PLAY mode, these two buttons can be used for selecting the "SHUTTLE SEARCH".
   REC ❽ ([○]) **+ PLAY** ([▶]): To start recording, press [▶] button while keeping [○] button pressed.
   REC ❽ ([○]) **+ PAUSE** ([❚❚]): Pressing these buttons, [○] and [❚❚] , at the same time pauses the recording operation.
   (Recording can be resumed at anytime by pressing PLAY [▶] button.

• CONTROL DAT or VCR

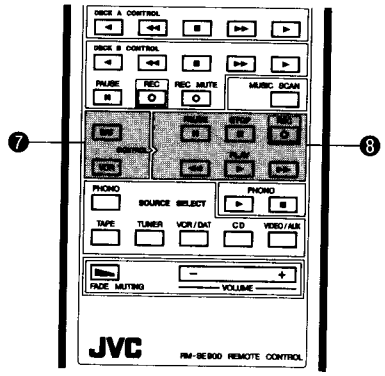


Fig. 16

SOURCE SELECT (Fig. 17)

The source changes automatically in response to the pressed buttons. When the source is switched to the component which have COMPU LINK, the unit starts playing automatically.

To play a record

1. ❿ ([▶]): Press this button to play a record.
2. ❿ ([■]): Press this button to stop playing a record.

• SOURCE SELECT and PHONO

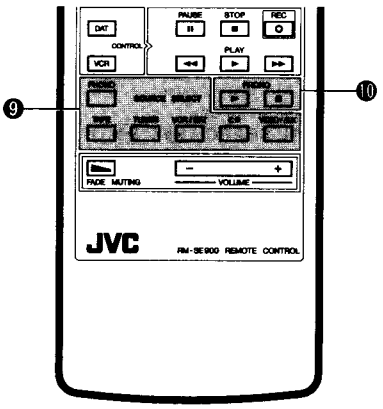


Fig. 17

Mute the sound (Fig. 18)

FADE MUTING ⓫ ([▬]): Press this button to lower the volume in steps. The volume continues to decrease each time this button is pressed.

Move volume up or down (Fig. 18)

VOLUME ⓬ ([−] [+]): The sound volume is increased or decreased gradually.

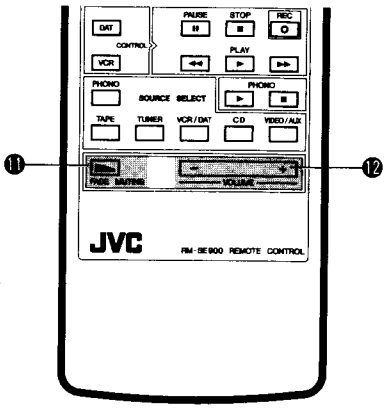
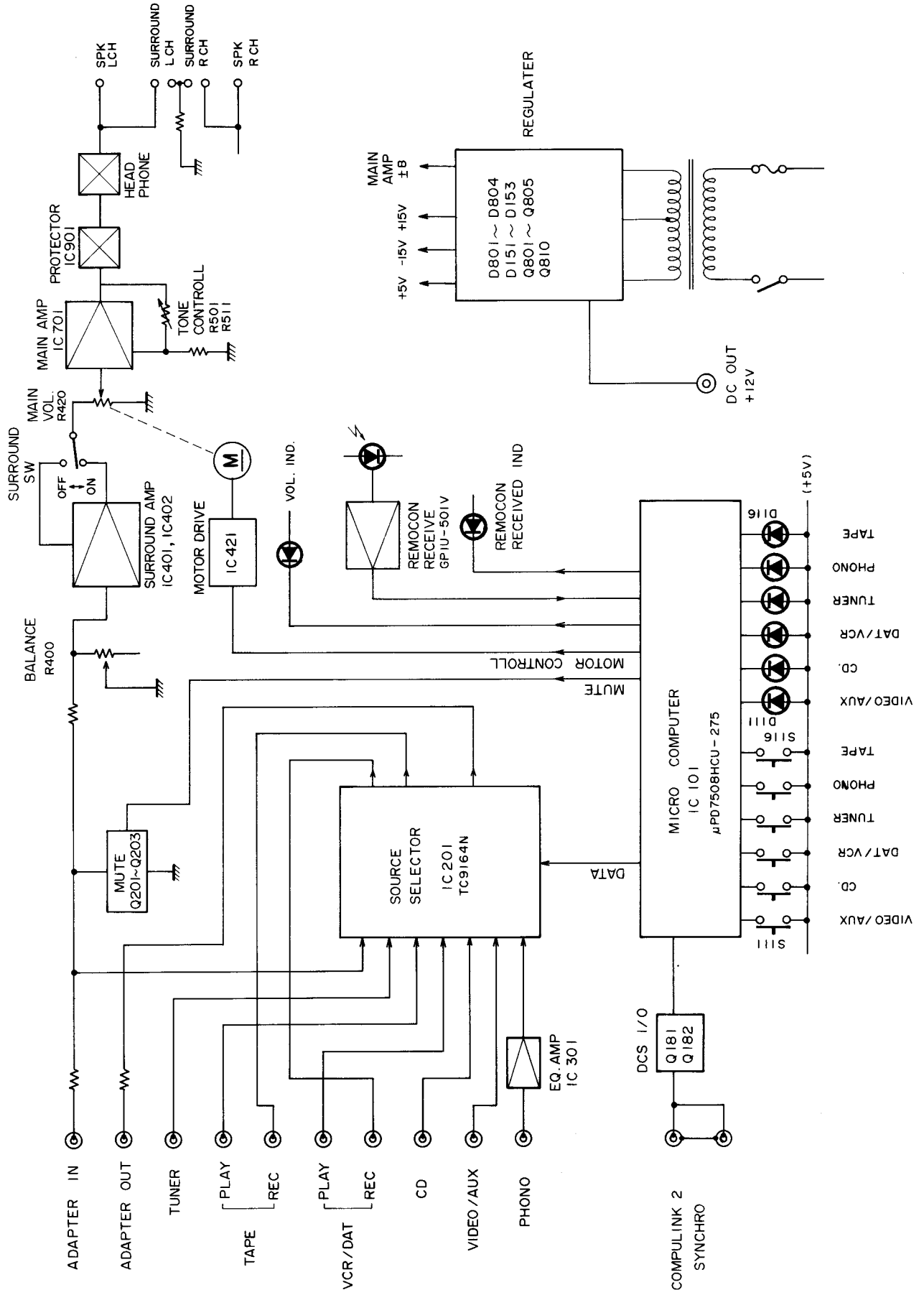


Fig. 18

Block Diagram



Removal Procedures

(1) Removing the Top Cover

1. Remove six screws, four of them are on both sides of the top cover and two are on the rear panel.
2. Raise the rear section of the top cover slightly and remove the lugs of the front section.

(2) Removing the Front Panel

1. Remove the top cover. (Refer to above item.)
2. Remove five screws ① through ⑤ securing the front panel and three screws ⑥ through ⑧ securing from the bottom plate. (See fig.1.)

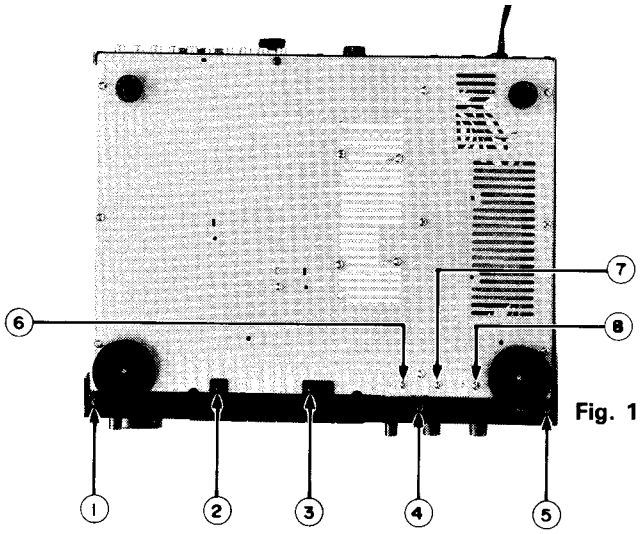


Fig. 1

(3) Removing the Main Volume

1. Remove the front panel. (Refer to above item.)
2. Pull out the slender wire connector (J101) from the main volume.
3. Turn the front panel over the arrow direction. (See fig.2.)
4. Pull out the main volume knob and LED holder.
5. Remove the nut securing the main volume.
6. Remove two screws ⑨ and ⑩ securing the volume holder. (See fig.2.)

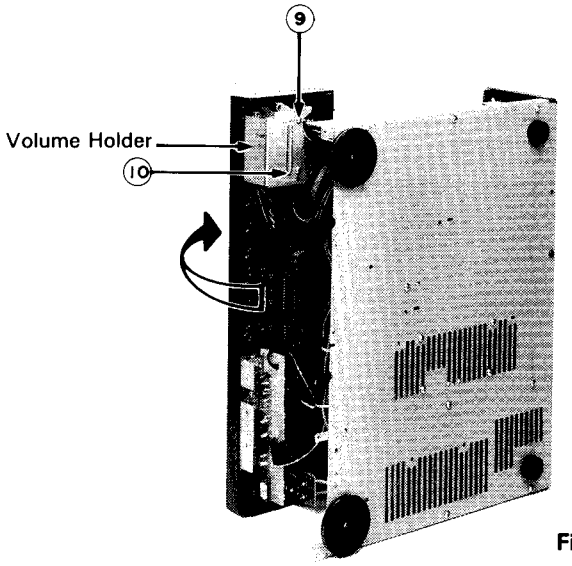


Fig. 2

(4) Removing the Front PCB

1. Remove the front panel. (Refer to above item.)
2. Remove the plastic rivets securing the pc boards.
3. Remove the catches retaining the pc boards backside the front panel.

(5) Removing the Bottom Plate

1. Remove twenty screws on the bottom surface.

(6) Removing the Power Pack

1. Remove the bottom plate. (Refer to above item.)
2. Remove two screws ⑪ and ⑫ securing the heat-sink and leaf spring. (See fig.3.)
3. Resolder the pins of the power pack.

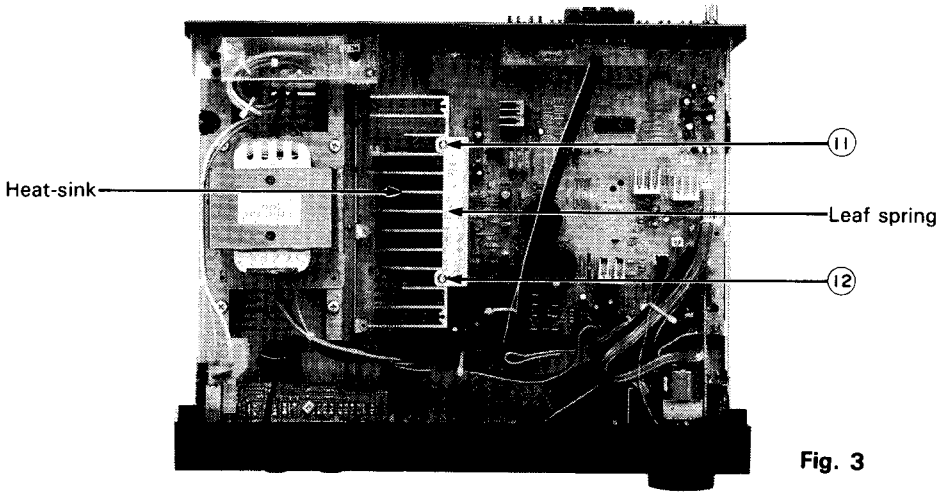
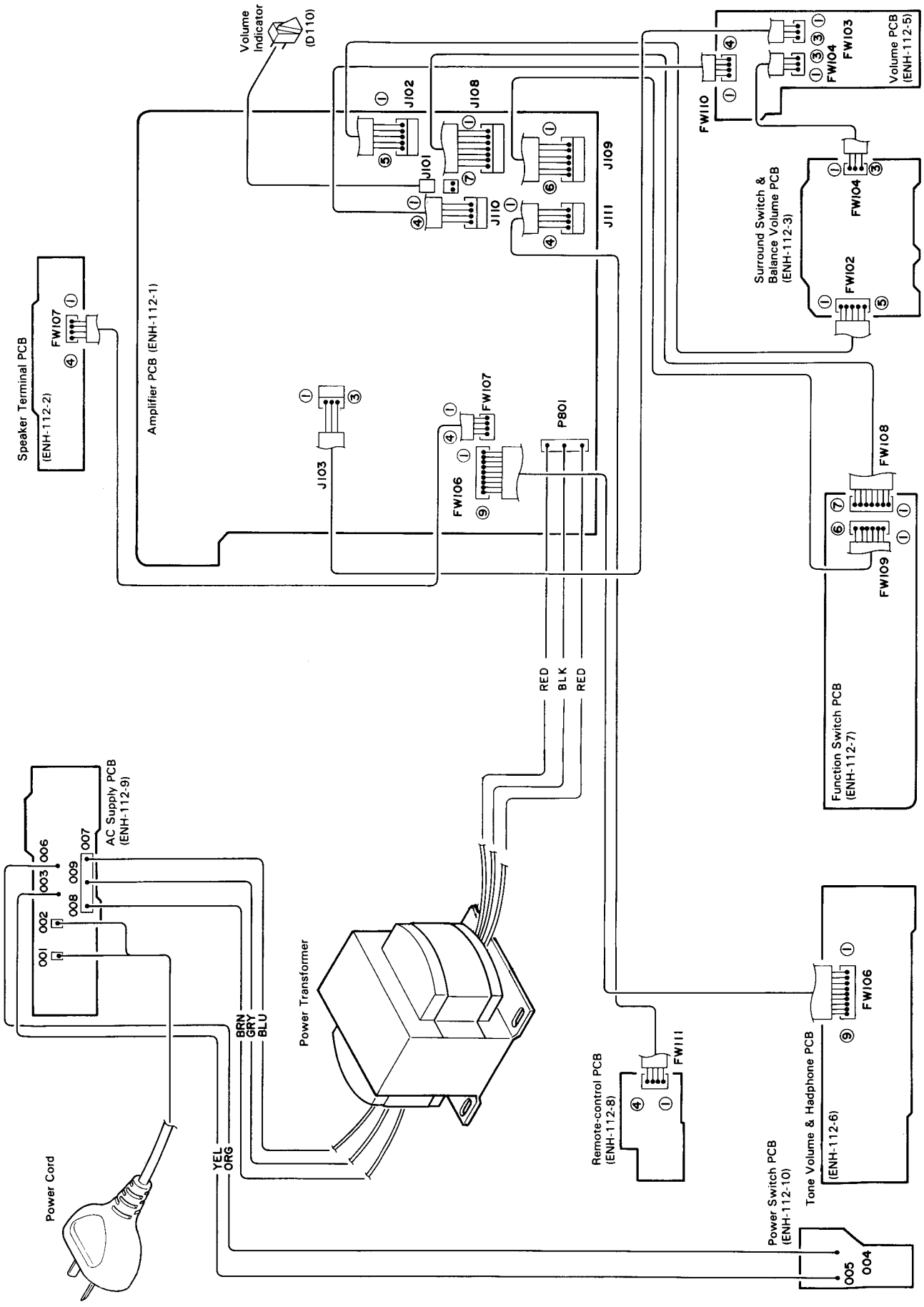
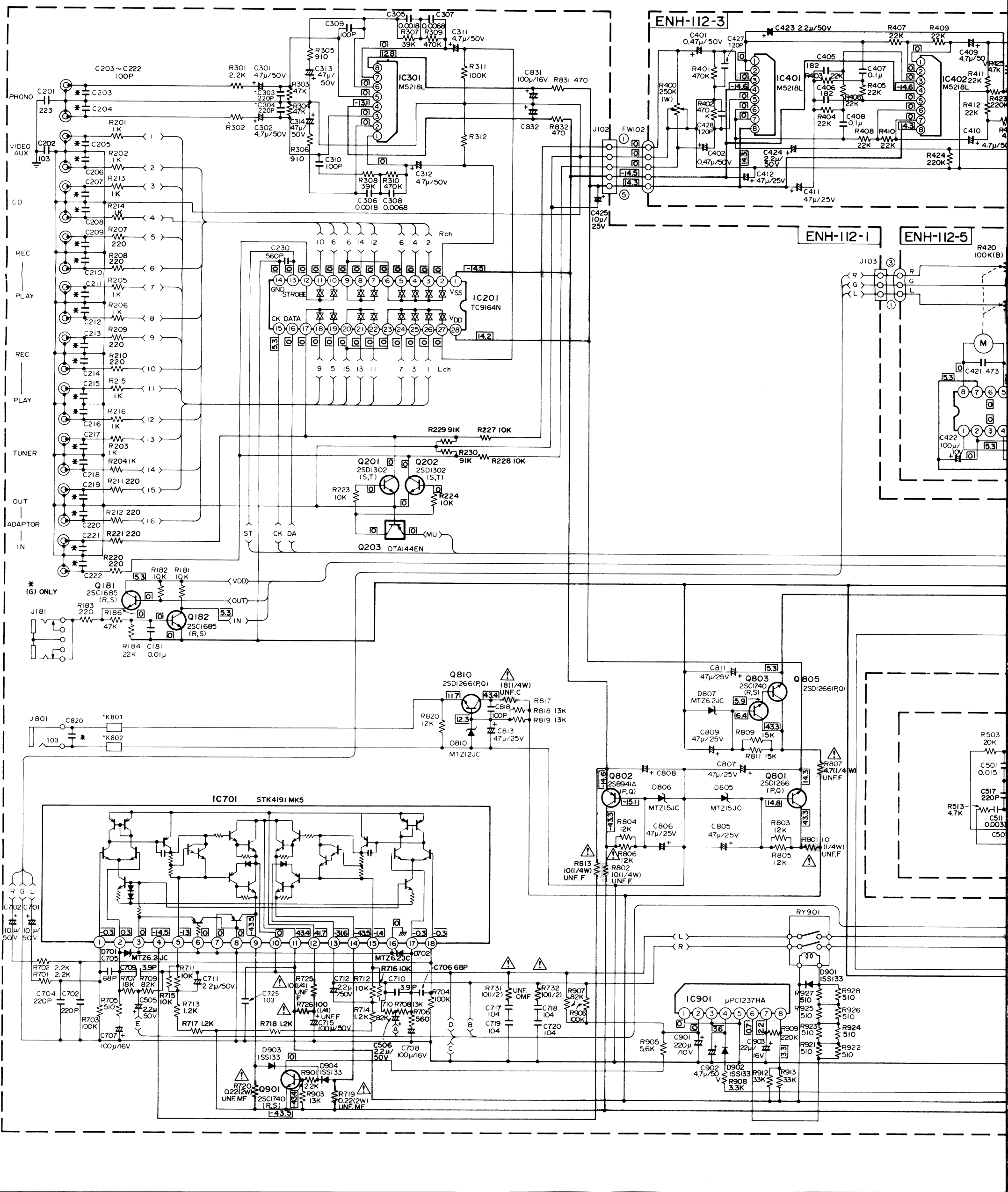


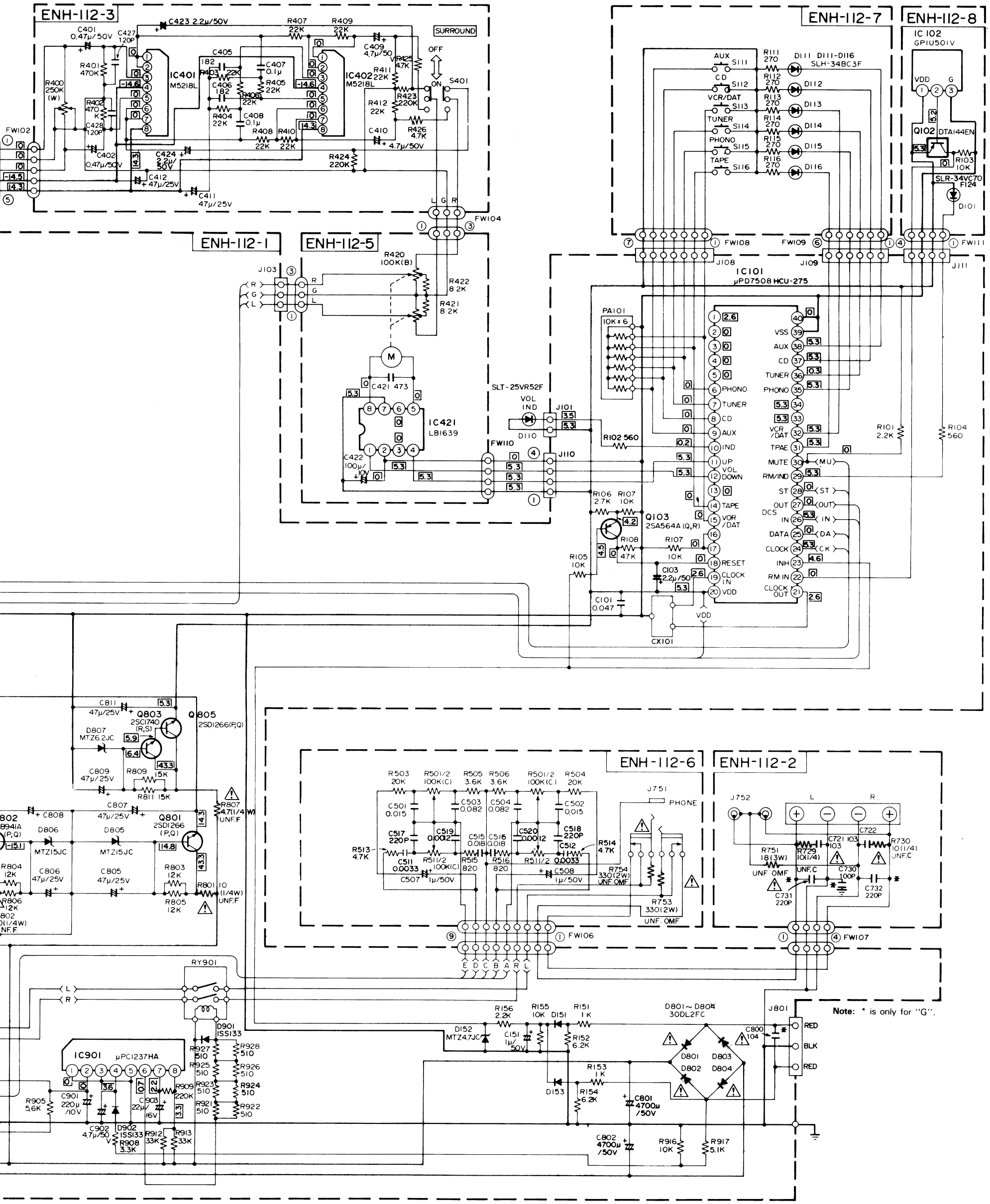
Fig. 3

Connection Diagram

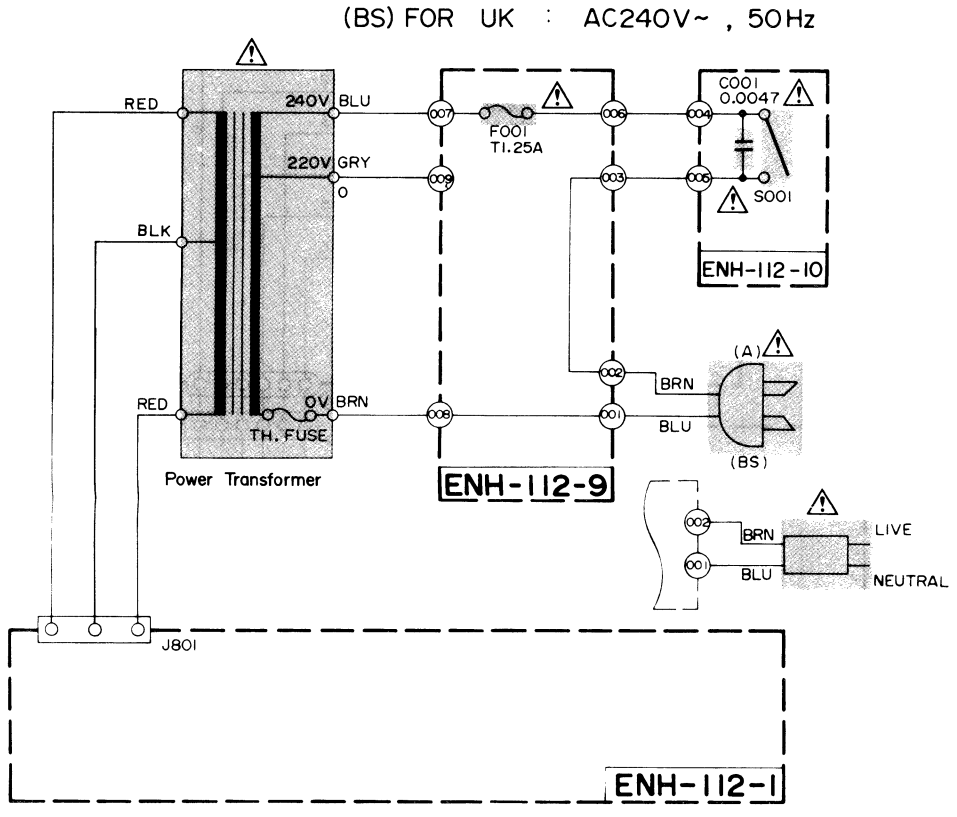


Schematic Diagram

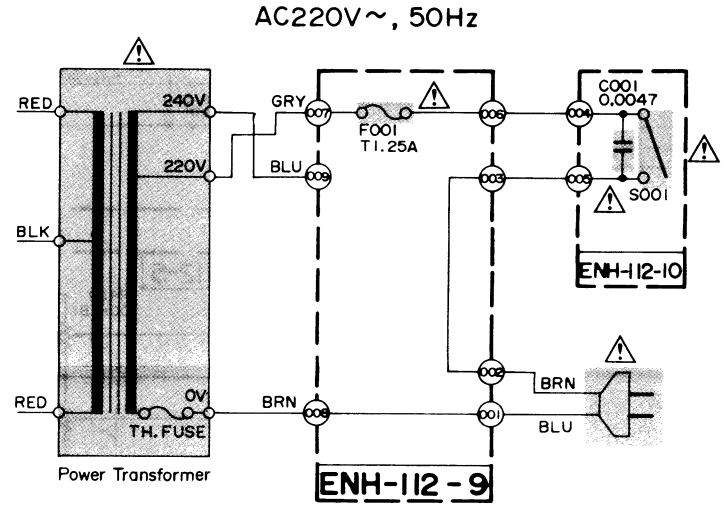



ENH-112-3
ENH-112-7
ENH-112-8
ENH-112-1
ENH-112-5
ENH-112-6
ENH-112-2
IC401 M5218L
IC402 M5218L
IC101 μPD7508 HCU-275
IC102 GP1U501V
IC421 LB1639
IC901 μPC1237HA
Q103 2SA564A (Q,R)
Q102 DTA144EN
Q803 2SC1740 (R,S)
Q805 2SD1266(P,Q)
Q801 2SD1266 (P,Q)
SLT-25VR52F
SLR-34VC70 F124
PA101 10K x 6
CX101
SURROUND
OFF
ON
S401
FW102
FW104
FW108
FW109
FW111
FW110
FW106
FW107
J103
J108
J109
J111
J101
J110
J751
J752
J801
RY901
PHONE
AUX
CD
VCR/DAT
TUNER
PHONO
TAPE
RESET
CLOCK IN
VDD
VSS
VOL UP
VOL DOWN
IND
MUTE
RM/IND
ST
OUT
IN
DATA
CLOCK
INH
RM IN
CLOCK OUT
DCS
D111 D111-D116 SLH-34BC3F
D110
D101
D153
D801~D804 30DL2FC
D801
D802
D803
D804
D807 MTZ6.2JC
D806 MTZ15JC
D805 MTZ15JC
D902 1SS133
D901 1SS133
D152 MTZ4.7JC
C401 0.47μ/50V
C402 0.47μ/50V
C423 2.2μ/50V
C427 120P
C428 120P
C405 182
C406 182
C407 0.1μ
C408 0.1μ
C409 4.7μ/50
C410 4.7μ/50V
C411 47μ/25V
C412 47μ/25V
C424 2.2μ/50V
C421 473
C422 100μ/10V
C103 2.2μ/50
C101 0.047
C811 47μ/25V
C809 47μ/25V
C807 47μ/25V
C808
C806 47μ/25V
C805 47μ/25V
C901 220μ/10V
C902 4.7μ/50V
C903 22μ/16V
C151 1μ/50V
C801 4700μ/50V
C802 4700μ/50V
C800 104
C501 0.015
C502 0.015
C503 0.082
C504 0.082
C505 0.082
C506 0.082
C507 1μ/50V
C508 1μ/50V
C511 0.0033
C512 0.0033
C515 0.018
C516 0.018
C517 220P
C518 220P
C519 0.0012
C520 0.0012
C721 103
C722
C730 100P
C731 220P
C732 220P
R401 470K
R402 470K
R400 250K (W)
R403 22K
R404 22K
R405 22K
R406 22K
R407 22K
R408 22K
R409 22K
R410 22K
R411 22K
R412 22K
R423 220K
R424 220K
R426 4.7K
R425 4.7K
R420 100K(B)
R422 8.2K
R421 8.2K
R101 2.2K
R102 560
R103 10K
R104 560
R105 10K
R106 2.7K
R107 10K
R108 47K
R111 270
R112 270
R113 270
R114 270
R115 270
R116 270
R151 1K
R152 6.2K
R153 1K
R154 6.2K
R155 10K
R156 2.2K
R501/2 100K(C)
R503 20K
R504 20K
R505 3.6K
R506 3.6K
R511/2 100K(C)
R513 4.7K
R514 4.7K
R515 820
R516 820
R729 10(1/4)
R730 10(1/4) UNF.C
R751 18(3W) UNF.OMF
R754 330(2W) UNF.OMF
R753 330(2W) UNF.OMF
R807 4.7(1/4W) UNF.F
R801 10 (1/4W) UNF.F
R802 (1/4W) UNF.F
R803 12K
R804 12K
R805 12K
R806 12K
R808 12K
R809 15K
R811 15K
R909 220K
R905 5.6K
R908 3.3K
R912 33K
R913 33K
R916 10K
R917 5.1K
R921 510
R922 510
R923 510
R924 510
R925 510
R926 510
R927 510
R928 510
Note: * is only for "G".

BS & A (A) FOR AUSTRALIA : AC240V~ , 50Hz
(BS) FOR UK : AC240V~ , 50Hz



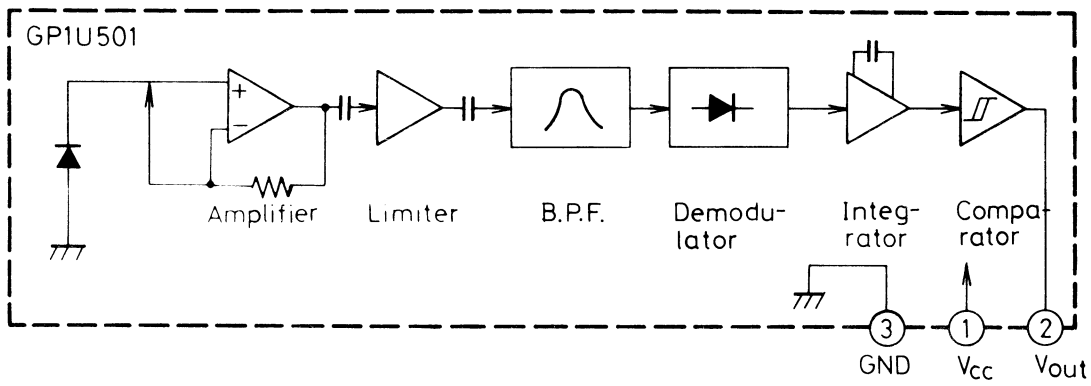
E, EF & G (E),(EF) FOR CONTINENTAL EUROPE
(G) FOR WEST GERMANY
AC220V~, 50Hz



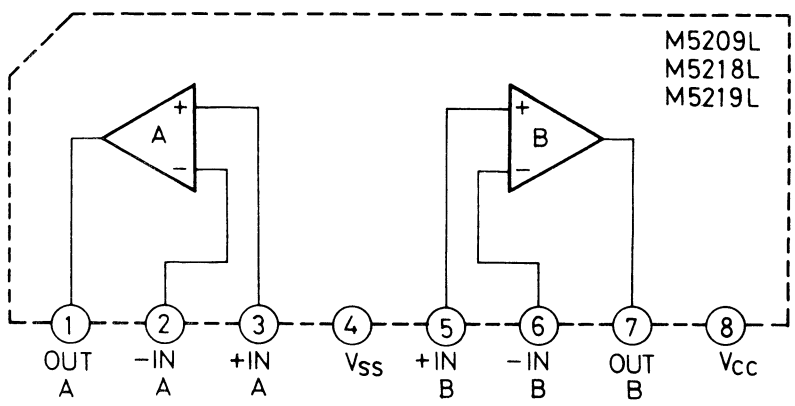
U, P

Internal Block Diagrams of ICs

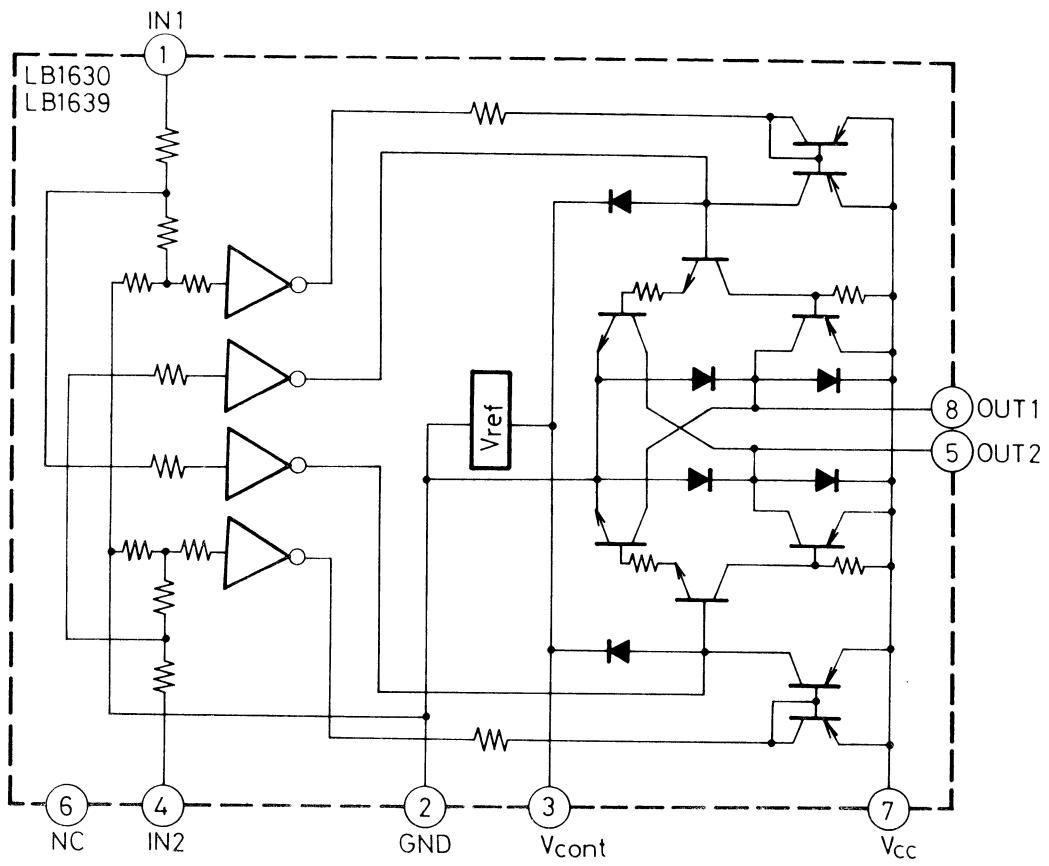
■ **GP1U501V (IC102)**



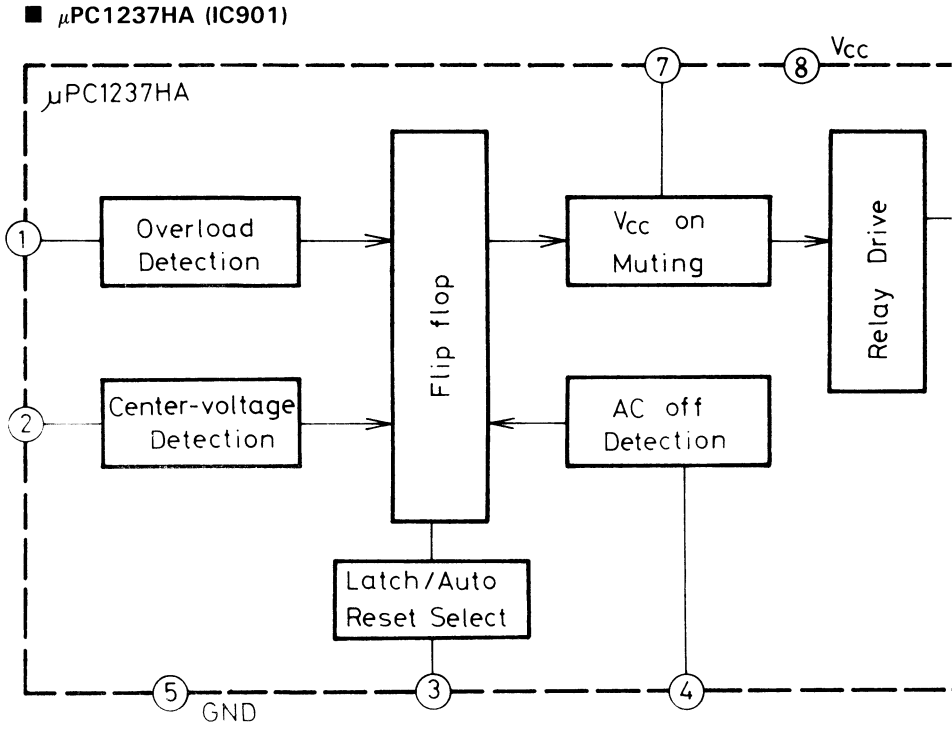
■ **M5218L (IC301, IC401, IC402)**



■ **LB1639 (IC421)**

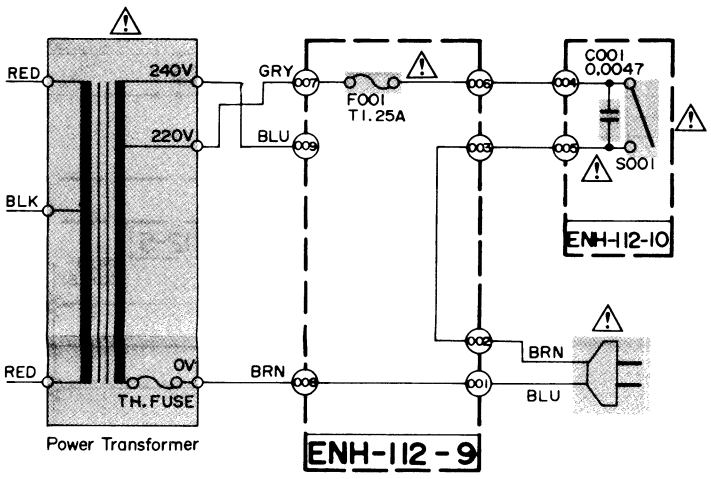


■ **μPC1237HA (IC901)**

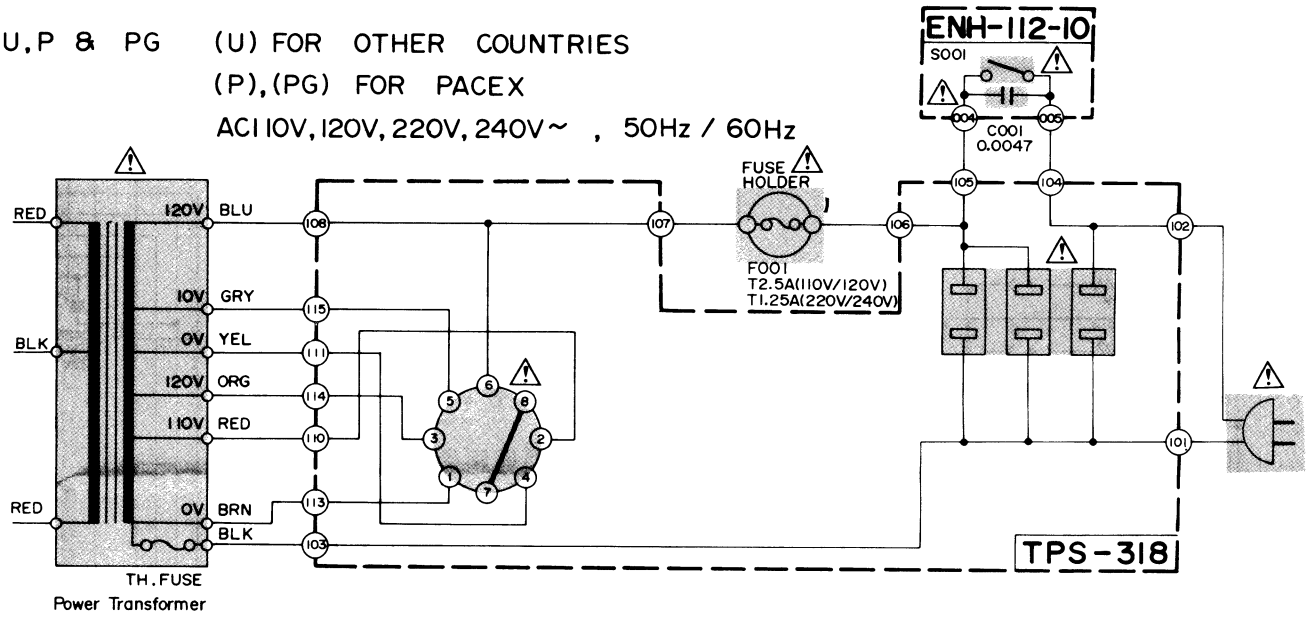


(No. 20017)

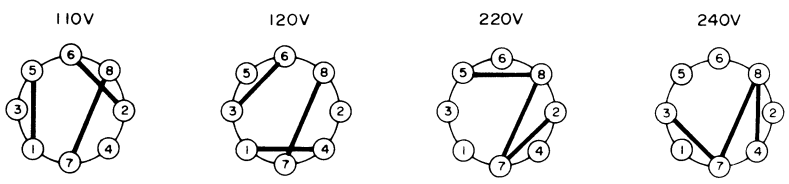
E, EF & G (E),(EF) FOR CONTINENTAL EUROPE
(G) FOR WEST GERMANY
AC220V~, 50Hz



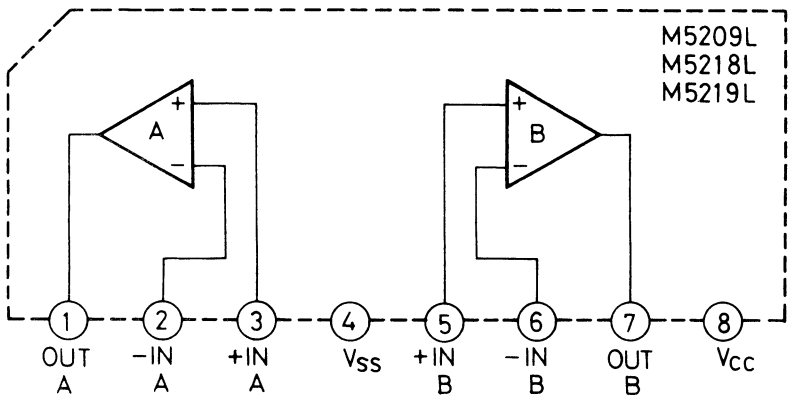
U, P & PG (U) FOR OTHER COUNTRIES
(P),(PG) FOR PACEX
AC110V, 120V, 220V, 240V~ , 50Hz / 60Hz



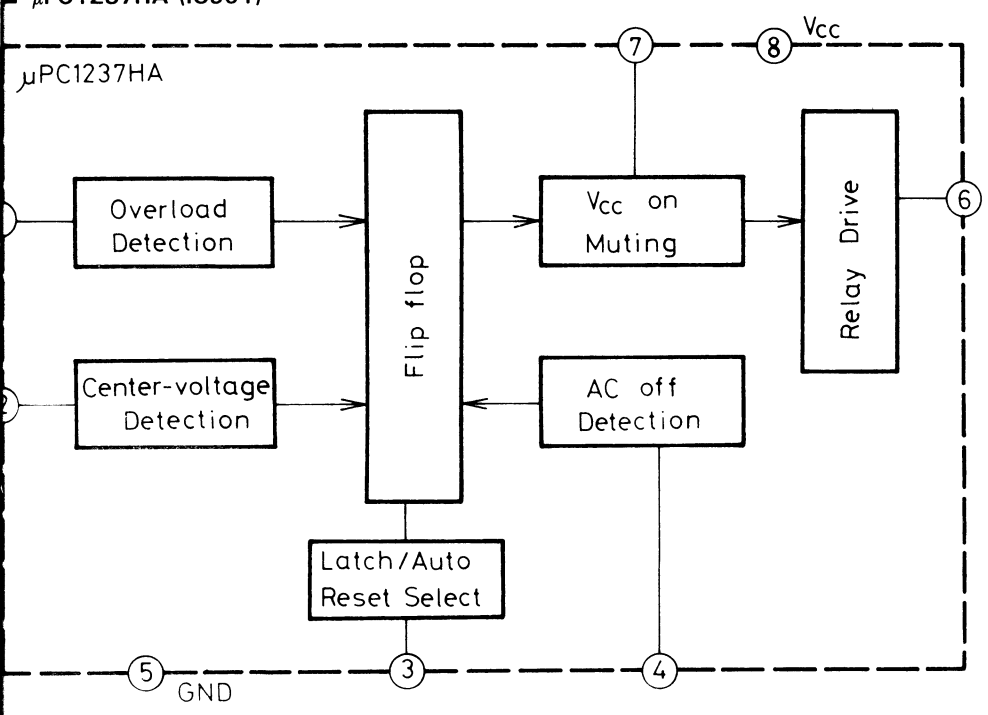
VOLTAGE SELECTOR CONNECTION



■ M5218L (IC301, IC401, IC402)



■ μPC1237HA (IC901)



PARTS LIST

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Printed Circuit Board and Parts List 2-5
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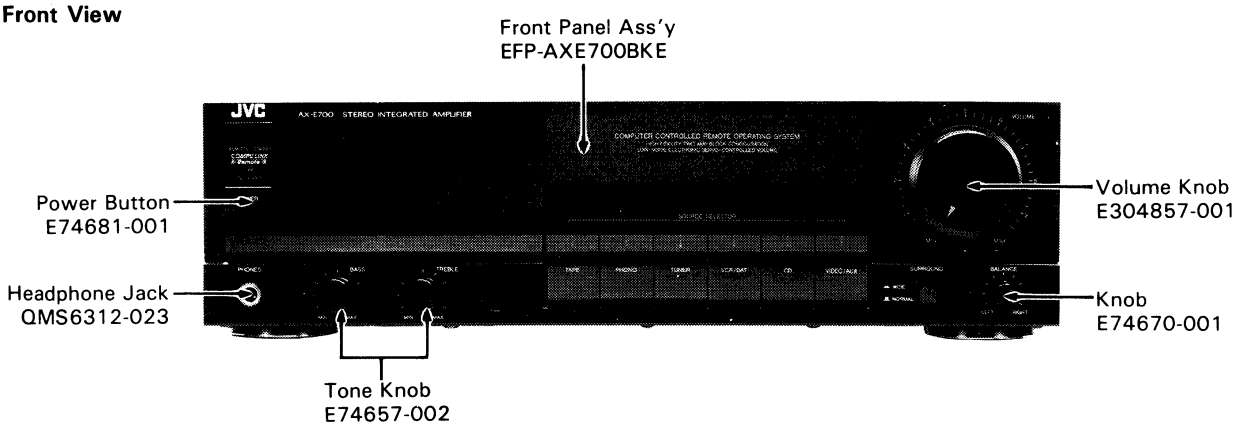
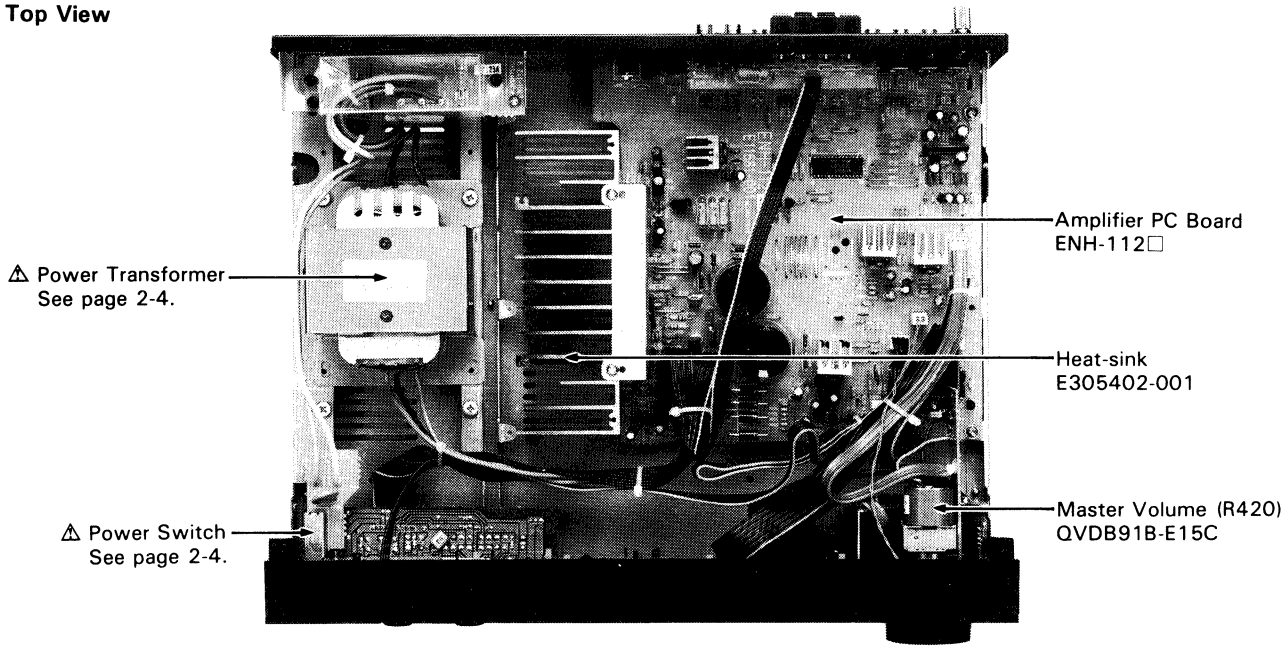
■ TPS-318[C] Voltage Selector PC Board 2-8
Packing Materials and Part Numbers 2-9
Accessories List 2-9

Main Parts Locations

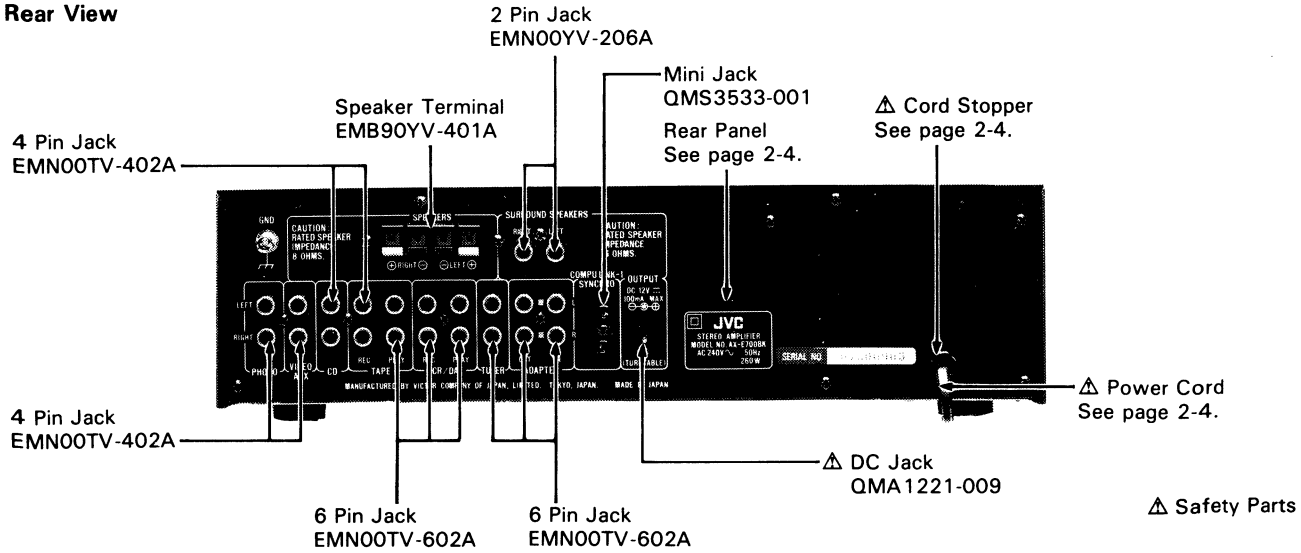
■ Front View



■ Top View



■ Rear View

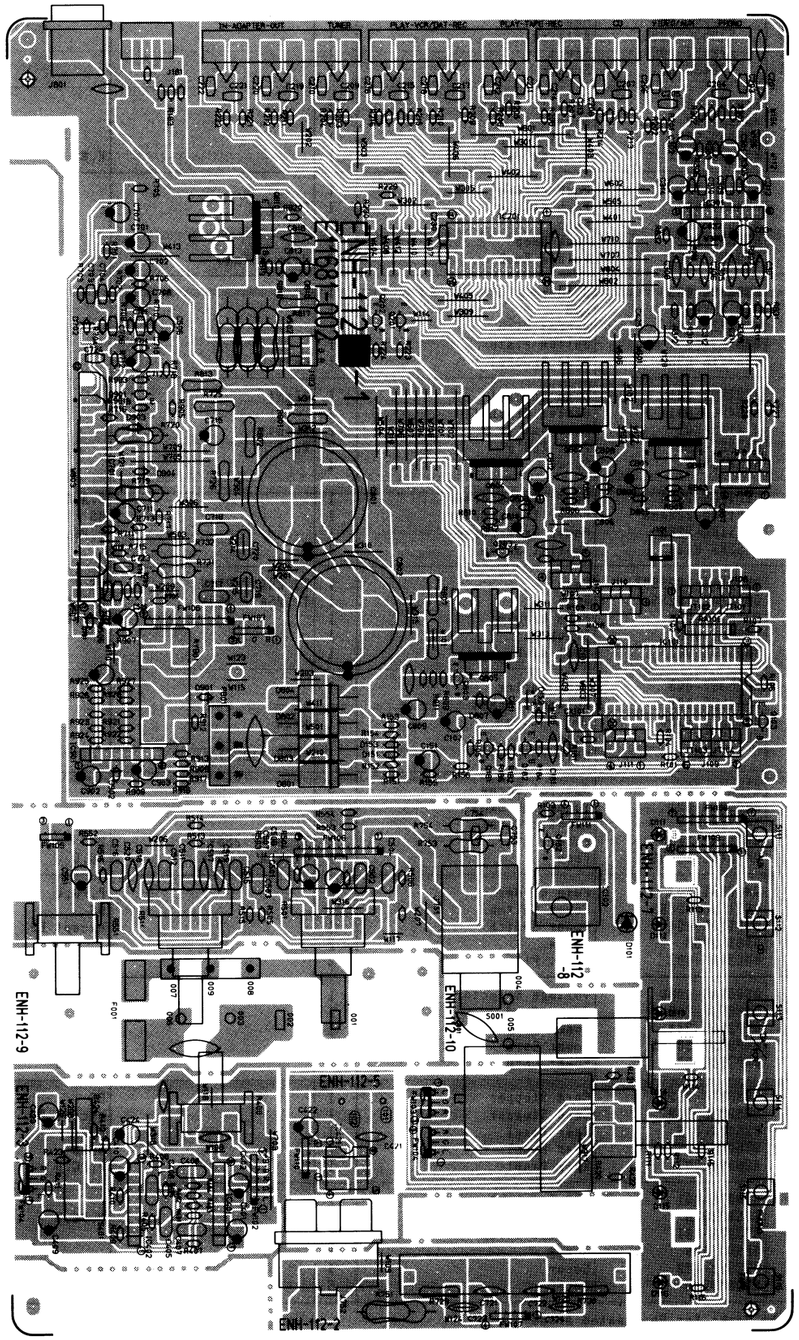


⚠ Safety Parts

Printed Circuit Board Ass'y and Parts List

■ **ENH-112□ Amplifier PC Board Ass'y**

Note: ENH-112□ Varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENH-112 G	Europe
ENH-112 H BS	U.K.
ENH-112 I	West Germany
ENH-112 J	Australia
ENH-112 F	U.S. Military Market & Other Countries

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q102	DTA144ES	SILICON	ROHM	
	Q103	2SA564A(Q,R)	SILICON	MATSUSHITA	
	Q181	2SC1685(R,S)	SILICON	MATSUSHITA	
	Q182	2SC1685(R,S)	SILICON	MATSUSHITA	
	Q201	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q202	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q203	DTA144ES	SILICON	ROHM	
	Q801	2SD1266(P,Q)	SILICON	MATSUSHITA	
	Q802	2SB941A(P,Q)	SILICON	MATSUSHITA	
	Q803	2SC1740(R,S)	SILICON	ROHM	
	Q805	2SD1266(P,Q)	SILICON	MATSUSHITA	
	Q810	2SD1266(P,Q)	SILICON	MATSUSHITA	
	Q901	2SC1740(R,S)	SILICON	ROHM	

I. C. S

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC101	UPD7508HCU-275	I.C.	NEC	
	IC102	GP1U501V	I.C.	SHARP	
	IC201	TC9164N	I.C.	TOSHIBA	
	IC301	M5218L-R	I.C.	MITSUBISHI	
	IC401	M5218L	I.C.	MITSUBISHI	
	IC402	M5218L	I.C.	MITSUBISHI	
	IC421	LB1639	I.C.	SANYO	
	IC701	STK4191MK5	I.C.	SANYO	
	IC901	UPC1237HA	I.C.	NEC	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D101	SLR-34VC50F124	L.E.D.		
	D111	SLH-34DC3F	L.E.D.	ROHM	
	D112	SLH-34DC3F	L.E.D.	ROHM	
	D113	SLH-34DC3F	L.E.D.	ROHM	
	D114	SLH-34DC3F	L.E.D.	ROHM	
	D115	SLH-34DC3F	L.E.D.	ROHM	
	D116	SLH-34DC3F	L.E.D.	ROHM	
	D151	1SS133	SILICON	ROHM	
	D152	MTZ4.7JB	ZENER	ROHM	
	D153	1SS133	SILICON	ROHM	
	D701	MTZ6.2JC	ZENER	ROHM	
	D702	MTZ6.2JC	ZENER	ROHM	
	D801	30DL2FC	SILICON	NIHONINTER	
	D802	30DL2FC	SILICON	NIHONINTER	
	D803	30DL2FC	SILICON	NIHONINTER	
	D804	30DL2FC	SILICON	NIHONINTER	
	D805	MTZ15JC	ZENER	ROHM	
	D806	MTZ15JC	ZENER	ROHM	
	D807	MTZ6.2JC	ZENER	ROHM	
	D810	MTZ12JC	ZENER	ROHM	
	D901	1SS133	SILICON	ROHM	
	D902	1SS133	SILICON	ROHM	
	D903	1SS133	SILICON	ROHM	
	D904	1SS133	SILICON	ROHM	

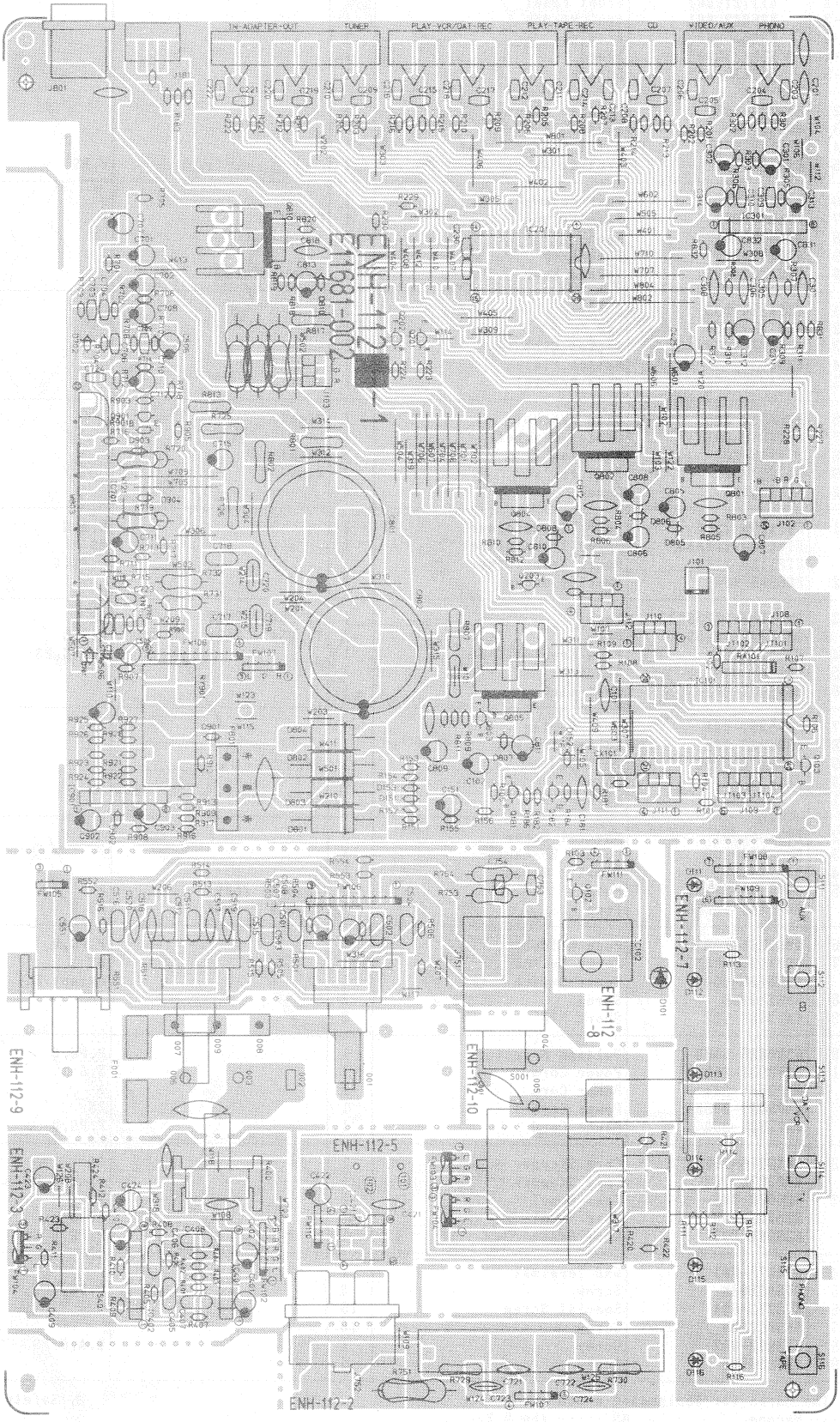
CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C001	QCZ9019-472	4700PF		CERAMIC	F
	C001	QCZ9019-472	4700PF		CERAMIC	G
	C001	QCZ9019-472	4700PF		CERAMIC	I
	C001	QCZ9019-472	4700PF		CERAMIC	J
	C001	QCZ9019-472BS	4700PF		CERAMIC	HBS
	C101	QCF21HP-473	0.047MF	50V	CERAMIC	
	C103	**QETB1HM-225**	**2.2MF**	**50V**	ELECTRO	
	C151	QETB1HM-105	1MF	50V	ELECTRO	
	C181	QCF21HP-103	0.01MF	50V	CERAMIC	
	C201	QCF21HP-223	0.022MF	50V	CERAMIC	
	C202	QCF21HP-103	0.01MF	50V	CERAMIC	
	C203	QCBB1HK-101	100PF	50V	CERAMIC	I
	C204	QCBB1HK-101	100PF	50V	CERAMIC	I
	C205	QCBB1HK-101	100PF	50V	CERAMIC	I
	C206	QCBB1HK-101	100PF	50V	CERAMIC	I
	C207	QCBB1HK-101	100PF	50V	CERAMIC	I
	C208	QCBB1HK-101	100PF	50V	CERAMIC	I
	C209	QCBB1HK-101	100PF	50V	CERAMIC	I
	C210	QCBB1HK-101	100PF	50V	CERAMIC	I
	C211	QCBB1HK-101	100PF	50V	CERAMIC	I
	C212	QCBB1HK-101	100PF	50V	CERAMIC	I
	C213	QCBB1HK-101	100PF	50V	CERAMIC	I
	C214	QCBB1HK-101	100PF	50V	CERAMIC	I
	C215	QCBB1HK-101	100PF	50V	CERAMIC	I
	C216	QCBB1HK-101	100PF	50V	CERAMIC	I
	C217	QCBB1HK-101	100PF	50V	CERAMIC	I
	C218	QCBB1HK-101	100PF	50V	CERAMIC	I
	C219	QCBB1HK-101	100PF	50V	CERAMIC	I
	C220	QCBB1HK-101	100PF	50V	CERAMIC	I
	C221	QCBB1HK-101	100PF	50V	CERAMIC	I
	C222	QCBB1HK-101	100PF	50V	CERAMIC	I
	C230	QCBB1HK-561	560PF	50V	CERAMIC	
	C301	QETB1HM-475	4.7MF	50V	ELECTRO	
	C302	QETB1HM-475	4.7MF	50V	ELECTRO	
	C305	QCY21HK-182	1800PF	50V	CERAMIC	
	C306	QCY21HK-182	1800PF	50V	CERAMIC	
	C307	QCY21HK-682	6800PF	50V	CERAMIC	
	C308	QCY21HK-682	6800PF	50V	CERAMIC	
	C309	QCBB1HK-101	100PF	50V	CERAMIC	
	C310	QCBB1HK-101	100PF	50V	CERAMIC	
	C311	QETB1HM-475	4.7MF	50V	ELECTRO	
	C312	QETB1HM-475	4.7MF	50V	ELECTRO	
	C313	QETB1HM-476	47MF	50V	ELECTRO	
	C314	QETB1HM-476	47MF	50V	ELECTRO	
	C401	QETB1HM-474	0.47MF	50V	ELECTRO	
	C402	QETB1HM-474	0.47MF	50V	ELECTRO	
	C405	QFN81HK-182	1800PF	50V	MYLAR	
	C406	QFN81HK-182	1800PF	50V	MYLAR	
	C407	QFN81HK-104	0.1MF	50V	MYLAR	
	C408	QFN81HK-104	0.1MF	50V	MYLAR	
	C409	QETB1HM-475	4.7MF	50V	ELECTRO	
	C410	QETB1HM-475	4.7MF	50V	ELECTRO	
	C421	QCF21HP-473	0.047MF	50V	CERAMIC	
	C422	QETB1AM-107	100MF	10V	ELECTRO	
	C423	QETB1HM-225	2.2MF	50V	ELECTRO	
	C424	QETB1HM-225	2.2MF	50V	ELECTRO	
	C425	QETB1EM-106	10MF	25V	ELECTRO	
	C427	QCS21HJ-121	120PF	50V	CERAMIC	
	C428	QCS21HJ-121	120PF	50V	CERAMIC	
	C501	QFN81HK-153	0.015MF	50V	MYLAR	
	C502	QFN81HK-153	0.015MF	50V	MYLAR	
	C503	QFN81HK-823	0.082MF	50V	MYLAR	
	C504	QFN81HK-823	0.082MF	50V	MYLAR	
	C505	QEHC1HM-225	2.2MF	50V	ELECTRO	
	C506	QEHC1HM-225	2.2MF	50V	ELECTRO	
	C507	QETB1HM-105	1MF	50V	ELECTRO	
	C508	QETB1HM-105	1MF	50V	ELECTRO	
	C511	QFN81HK-332	3300PF	50V	MYLAR	
	C512	QFN81HK-332	3300PF	50V	MYLAR	
	C515	QFN81HK-183	0.018MF	50V	MYLAR	
	C516	QFN81HK-183	0.018MF	50V	MYLAR	
	C517	QCS21HJ-221	220PF	50V	CERAMIC	
	C518	QCS21HJ-221	220PF	50V	CERAMIC	
	C519	QCY21HK-122	1200PF	50V	CERAMIC	
	C520	QCY21HK-122	1200PF	50V	CERAMIC	
	C701	**EEZ5007-106**	**10MF**	25V	ELECTRO	
	C702	**EEZ5007-106**	**10MF**	25V	ELECTRO	
	C703	QCS21HJ-221	220PF	50V	CERAMIC	
	C704	QCS21HJ-221	220PF	50V	CERAMIC	
	C705	QCSB1HJ-680	68PF	50V	CERAMIC	
	C706	QCSB1HJ-680	68PF	50V	CERAMIC	
	C707	QETB1CM-107	100MF	16V	ELECTRO	
	C708	QETB1CM-107	100MF	16V	ELECTRO	
	C709	QCSB1HJ-3R9	39PF	50V	CERAMIC	
	C710	QCSB1HJ-3R9	39PF	50V	CERAMIC	

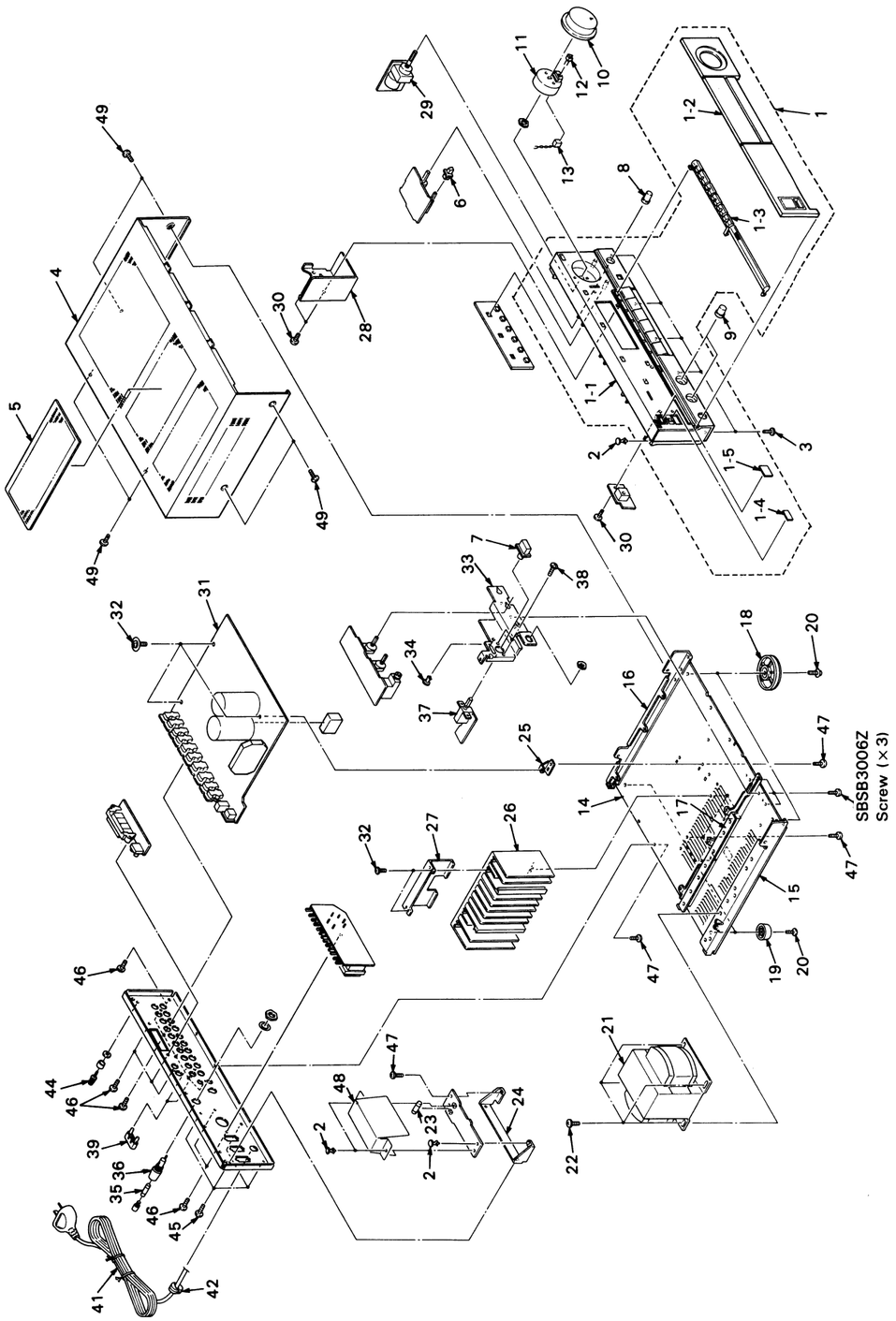
Printed Circuit Board Ass'y and Parts List

■ **ENH-112□ Amplifier PC Board Ass'y**

Note: ENH-112□ Varies according to the areas employed. See note (1) when placing an order.



Exploded View and Parts List



Exploded View and Parts List

⚠	Item	Parts Number	Parts Name	Q'ty	Description	Areas
	1	BFP-AXE700BKE	Front Panel Ass'y	1		
	1-1	E11727-001	Front Panel	1		
	1-2	E26003-001	Amp. Window	1		
	1-3	E305368-001	Fitting	1		
	1-4	E72437-006	Sheet	1		
	1-5	E72436-007	Screen	1		
	2	E48729-008	Plastic Rivet	4		
	3	SDSB3008M	Screw	5		
	4	E25999-002	Metal Cover	1		
	5	E304239-001	Protect Sheet	1		E,BS
	6	E74180-002	Push Button	1		
	7	E74681-001	Push Button	1	POWER	
	8	E74670-001	Knob	1		
	9	E74657-002	Tone Knob	2		
	10	E304857-001	Volume Knob	1	Main Volume	
	11	E304320-003	Holder	1		
	12	SLT-25VR52F	LED	1		
	13	EWS142-008H	Socket Wire	1		
	14	E25703-005	Bottom Plate	1		
	15	E304848-003	Side Bracket	1	Left	
	16	E304850-001	Side Bracket	1	Right	
	17	E304849-001	Center Bracket	1		
	18	E74185-001	Foot Ass'y	2	Front	
	19	E47227-020	Foot Ass'y	2	Rear	
	20	SBST3008Z	Screw	4		
⚠	21	ETP1100-22EA	Power Transformer	1		E,A,G
⚠		ETP1100-22EABS	Power Transformer	1		BS
⚠		ETP1100-22FA	Power Transformer	1		P,PG,U
	22	E65389-004	Special Screw	4		
⚠	23	QMF51E2-1R25SBS	Fuse	1	T1.25A / 250V	BS
⚠		QMF51A2-1R25S	Fuse	1	T1.25A / 250V	E,A,G
	24	E71074-002	Fuse Bracket	1		E,A,G,BS
	25	E68587-008	Bracket	1		
	26	E305402-001	Heat-sink	1		
	27	E305367-003	Leaf Spring	1		
	28	E304862-002	Volume Bracket	1		
	29	QVD891B-E15C	Main Volume	1	R420	
	30	SBSF3008Z	Screw	3		
	31	-----	Main PC Board	1	(BNH-112□)	
	32	E73265-001	Special Screw	5		
	33	E305363-001	Volume Bracket	1		
	34	E48729-007	Plastic Rivet	1		
⚠	35	QMF51A2-2R5S	Fuse	1	T2.5A / 250V	P
⚠		QMF51A2-1R25S	Fuse	1	T1.25A / 250V	PG,U
⚠	36	QMG0301-003	Fuse Holder	1		P,PG,U
⚠	37	QSP1106-004BS	Power Switch	1		BS
⚠		QSP1106-004	Power Switch	1		except BS
	38	SBST3006Z	Screw	2		
	39	EMZ3001-002	Short Pin	2		
⚠	40	QSR0085-008U	Voltage Selector	1		P,PG,U
⚠	41	QMP3900-200	Power Cord	1		E,G
⚠		QMP2560-244	Power Cord	1		A
⚠		QMP9017-008BS	Power Cord	1		BS
⚠		QMP7600-200	Power Cord	1		P,PG,U
⚠	42	QHS3876-162BS	Cord Stopper	1		BS
⚠		QHS3876-162	Cord Stopper	1		except BS
	43	E26000-009	Rear Panel	1		E,G
		E26000-008	Rear Panel	1		A,BS
		E26000-007	Rear Panel	1		P,PG,U
	44	E70078-001	GND Terminal	1		
	45	SDSB3008M	Screw	2		P,PG,U
	46	E73273-001	Special Screw	15		
	47	SBSB3008N	Screw	16		
	48	E72922-002	Cover	1		E,A,G,BS
	49	SDSE3008M	Screw	6		

Note: The Marks for Designated Areas

E ····· Europe
A ····· Australia
G ····· West Germany
BS ····· the U.K.
P,PG ····· U.S.Military Market
U ····· Other Countries

⚠:Safety Parts

No Mark indicates all areas.

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C711	QEHC1HM-225	2.2MF	50V	ELECTRO	
	C712	QEHC1HM-225	2.2MF	50V	ELECTRO	
	C715	QETB1HM-107	100MF	50V	ELECTRO	
	C717	QFN81HK-104	0.1MF	50V	MYLAR	HBS
	C717	QFN81HK-104	0.1MF	50V	MYLAR	I
	C717	QFN81HK-104	0.1MF	50V	MYLAR	J
	C717	QFN81HK-473	0.047MF	50V	MYLAR	F
	C717	QFN81HK-473	0.047MF	50V	MYLAR	G
	C718	QFN81HK-104	0.1MF	50V	MYLAR	HBS
	C718	QFN81HK-104	0.1MF	50V	MYLAR	I
	C718	QFN81HK-104	0.1MF	50V	MYLAR	J
	C718	QFN81HK-473	0.047MF	50V	MYLAR	F
	C718	QFN81HK-473	0.047MF	50V	MYLAR	G
	C719	QFN81HK-104	0.1MF	50V	MYLAR	HBS
	C719	QFN81HK-104	0.1MF	50V	MYLAR	I
	C719	QFN81HK-104	0.1MF	50V	MYLAR	J
	C720	QFN81HK-104	0.1MF	50V	MYLAR	HBS
	C720	QFN81HK-104	0.1MF	50V	MYLAR	I
	C720	QFN81HK-104	0.1MF	50V	MYLAR	J
	C721	QCF21HP-103	0.01MF	50V	CERAMIC	
	C722	QCF21HP-103	0.01MF	50V	CERAMIC	
	C801	QEZ0061-478	4700MF	50V	ELECTRO	
	C802	QEZ0061-478	4700MF	50V	ELECTRO	
	C805	QETB1EM-476	47MF	25V	ELECTRO	
	C806	QETB1EM-476	47MF	25V	ELECTRO	
	C807	QETB1EM-476	47MF	25V	ELECTRO	
	C808	QETB1EM-476	47MF	25V	ELECTRO	
	C809	QETB1EM-476	47MF	25V	ELECTRO	
	C811	QETB1EM-476	47MF	25V	ELECTRO	
	C813	QETB1EM-476	47MF	25V	ELECTRO	
	C818	QCS21HJ-101	100PF	50V	CERAMIC	
	C831	QETB1CM-107	100MF	16V	ELECTRO	
	C832	QETB1CM-107	100MF	16V	ELECTRO	
	C901	QETB1AM-227	220MF	10V	ELECTRO	
	C902	QEHC1HM-475	4.7MF	50V	ELECTRO	
	C903	QETB1EM-226	22MF	25V	ELECTRO	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R101	QRD167J-222	2.2K	1/6W	CARBON	
	R102	QRD167J-561	560	1/6W	CARBON	
	R103	QRD167J-103	10K	1/6W	CARBON	
	R104	QRD167J-561	560	1/6W	CARBON	
	R105	QRD167J-103	10K	1/6W	CARBON	
	R106	QRD167J-272	2.7K	1/6W	CARBON	
	R107	QRD167J-103	10K	1/6W	CARBON	
	R108	QRD167J-473	47K	1/6W	CARBON	
	R109	QRD167J-103	10K	1/6W	CARBON	
	R111	QRD167J-271	270	1/6W	CARBON	
	R112	QRD167J-271	270	1/6W	CARBON	
	R113	QRD167J-271	270	1/6W	CARBON	
	R114	QRD167J-271	270	1/6W	CARBON	
	R115	QRD167J-271	270	1/6W	CARBON	
	R116	QRD167J-271	270	1/6W	CARBON	
	R151	QRD167J-102	1K	1/6W	CARBON	
	R152	QRD167J-622	6.2K	1/6W	CARBON	
	R153	QRD167J-102	1K	1/6W	CARBON	
	R154	QRD167J-622	6.2K	1/6W	CARBON	
	R155	QRD167J-103	10K	1/6W	CARBON	
	R156	QRD167J-222	2.2K	1/6W	CARBON	
	R181	QRD167J-103	10K	1/6W	CARBON	
	R182	QRD167J-103	10K	1/6W	CARBON	
	R183	QRD167J-221	220	1/6W	CARBON	
	R184	QRD167J-223	22K	1/6W	CARBON	
	R186	QRD167J-473	47K	1/6W	CARBON	
	R201	QRD167J-102	1K	1/6W	CARBON	
	R202	QRD167J-102	1K	1/6W	CARBON	
	R203	QRD167J-102	1K	1/6W	CARBON	
	R204	QRD167J-102	1K	1/6W	CARBON	
	R205	QRD167J-102	1K	1/6W	CARBON	
	R206	QRD167J-102	1K	1/6W	CARBON	
	R207	QRD167J-221	220	1/6W	CARBON	
	R208	QRD167J-221	220	1/6W	CARBON	
	R209	QRD167J-221	220	1/6W	CARBON	
	R210	QRD167J-221	220	1/6W	CARBON	
	R211	QRD167J-221	220	1/6W	CARBON	
	R212	QRD167J-221	220	1/6W	CARBON	
	R213	QRD167J-102	1K	1/6W	CARBON	
	R214	QRD167J-102	1K	1/6W	CARBON	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R215	QRD167J-102	1K	1/6W	CARBON	
	R216	QRD167J-102	1K	1/6W	CARBON	
	R221	QRD167J-221	220	1/6W	CARBON	
	R222	QRD167J-221	220	1/6W	CARBON	
	R223	QRD167J-103	10K	1/6W	CARBON	
	R224	QRD167J-103	10K	1/6W	CARBON	
	R227	QRD167J-103	10K	1/6W	CARBON	
	R228	QRD167J-103	10K	1/6W	CARBON	
	R229	QRD167J-913	91K	1/6W	CARBON	
	R230	QRD167J-913	91K	1/6W	CARBON	
	R301	QRD167J-222	2.2K	1/6W	CARBON	
	R302	QRD167J-222	2.2K	1/6W	CARBON	
	R303	QRD167J-473	47K	1/6W	CARBON	
	R304	QRD167J-473	47K	1/6W	CARBON	
	R305	QRD167J-911	910	1/6W	CARBON	
	R306	QRD167J-911	910	1/6W	CARBON	
	R307	QRD167J-393	39K	1/6W	CARBON	
	R308	QRD167J-393	39K	1/6W	CARBON	
	R309	QRD167J-474	470K	1/6W	CARBON	
	R310	QRD167J-474	470K	1/6W	CARBON	
	R311	QRD167J-104	100K	1/6W	CARBON	
	R312	QRD167J-104	100K	1/6W	CARBON	
	R400	QVDA96W-EF5B	250K		VARIABLE	
	R401	QRD167J-474	470K	1/6W	CARBON	
	R402	QRD167J-474	470K	1/6W	CARBON	
	R403	QRD167J-223	22K	1/6W	CARBON	
	R404	QRD167J-223	22K	1/6W	CARBON	
	R405	QRD167J-223	22K	1/6W	CARBON	
	R406	QRD167J-223	22K	1/6W	CARBON	
	R407	QRD167J-223	22K	1/6W	CARBON	
	R408	QRD167J-223	22K	1/6W	CARBON	
	R409	QRD167J-223	22K	1/6W	CARBON	
	R410	QRD167J-223	22K	1/6W	CARBON	
	R411	QRD167J-223	22K	1/6W	CARBON	
	R412	QRD167J-223	22K	1/6W	CARBON	
	R420	QVDB91B-E15C	100K		VARIABLE	
	R421	QRD167J-822	8.2K	1/6W	CARBON	
	R422	QRD167J-822	8.2K	1/6W	CARBON	
	R423	QRD167J-224	220K	1/6W	CARBON	
	R424	QRD167J-224	220K	1/6W	CARBON	
	R425	**QRD167J-472**	**4.7K**	**1/6W**	**CARBON**	
	R426	**QRD167J-472**	**4.7K**	**1/6W**	**CARBON**	
	R501	QVDB96C-E15B	100K		VARIABLE	
	R503	QRD167J-203	20K	1/6W	CARBON	
	R504	QRD167J-203	20K	1/6W	CARBON	
	R505	QRD167J-362	3.6K	1/6W	CARBON	
	R506	QRD167J-362	3.6K	1/6W	CARBON	
	R511	QVDB96C-E15B	100K		VARIABLE	
	R513	QRD167J-472	4.7K	1/6W	CARBON	
	R514	QRD167J-472	4.7K	1/6W	CARBON	
	R515	QRD167J-821	820	1/6W	CARBON	
	R516	QRD167J-821	820	1/6W	CARBON	
	R701	QRD167J-222	2.2K	1/6W	CARBON	
	R702	QRD167J-222	2.2K	1/6W	CARBON	
	R703	QRD167J-104	100K	1/6W	CARBON	
	R704	QRD167J-104	100K	1/6W	CARBON	
	R705	QRD167J-561	560	1/6W	CARBON	
	R706	QRD167J-561	560	1/6W	CARBON	
	R707	QRD167J-133	13K	1/6W	CARBON	
	R708	QRD167J-133	13K	1/6W	CARBON	
	R709	QRD167J-823	82K	1/6W	CARBON	
	R710	QRD167J-823	82K	1/6W	CARBON	
	R711	QRD167J-103	10K	1/6W	CARBON	
	R712	QRD167J-103	10K	1/6W	CARBON	
	R713	QRD167J-122	1.2K	1/6W	CARBON	
	R714	QRD167J-122	1.2K	1/6W	CARBON	
	R715	QRD167J-103	10K	1/6W	CARBON	
	R716	QRD167J-103	10K	1/6W	CARBON	
	R717	QRD167J-122	1.2K	1/6W	CARBON	
	R718	QRD167J-122	1.2K	1/6W	CARBON	
⚠	R719	QRX022J-R22AM	0.22	2W	M.FILM	
⚠	R720	QRX022J-R22AM	0.22	2W	M.FILM	
⚠	R725	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R726	QRZ0077-101	100	1/4W	FUSIBLE	
⚠	R729	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R730	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R731	QRG012J-100AM	10	1W	O.M.FILM	
⚠	R732	QRG012J-100AM	10	1W	O.M.FILM	
⚠	R751	QRG032J-180A	18	3W	O.M.FILM	
⚠	R753	QRG022J-331AM	330	2W	O.M.FILM	
⚠	R754	QRG022J-331AM	330	2W	O.M.FILM	
⚠	R801	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R802	QRZ0077-100	10	1/4W	FUSIBLE	
	R803	QRD167J-123	12K	1/6W	CARBON	
	R804	QRD167J-123	12K	1/6W	CARBON	
	R805	QRD167J-123	12K	1/6W	CARBON	
	R806	QRD167J-123	12K	1/6W	CARBON	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R807	QRZ0077-4R7	4.7	1/4W	FUSIBLE	
	R809	QRD167J-153	15K	1/6W	CARBON	
	R811	QRD167J-153	15K	1/6W	CARBON	
⚠	R813	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R817	QRD14CJ-180S	18	1/4W	UNF.CARBON	
	R818	QRD167J-133	13K	1/6W	CARBON	
	R819	QRD167J-133	13K	1/6W	CARBON	
	R820	QRD167J-123	12K	1/6W	CARBON	
	R831	QRD167J-471	470	1/6W	CARBON	
	R832	QRD167J-471	470	1/6W	CARBON	
	R901	QRD167J-223	22K	1/6W	CARBON	
	R903	**QRD167J-133**	**13K**	1/6W	CARBON	
	R905	QRD167J-562	5.6K	1/6W	CARBON	
	R906	QRD167J-104	100K	1/6W	CARBON	
	R907	QRD167J-823	82K	1/6W	CARBON	
	R908	QRD167J-332	3.3K	1/6W	CARBON	
	R909	QRD167J-224	220K	1/6W	CARBON	
	R912	QRD167J-303	30K	1/6W	CARBON	
	R913	QRD167J-303	30K	1/6W	CARBON	
	R916	QRD167J-103	10K	1/6W	CARBON	
	R917	QRD167J-512	5.1K	1/6W	CARBON	
	R921	QRD167J-511	510	1/6W	CARBON	
	R922	QRD167J-511	510	1/6W	CARBON	
	R923	QRD167J-511	510	1/6W	CARBON	
	R924	QRD167J-511	510	1/6W	CARBON	
	R925	QRD167J-511	510	1/6W	CARBON	
	R926	QRD167J-511	510	1/6W	CARBON	
	R927	QRD167J-511	510	1/6W	CARBON	
	R928	QRD167J-511	510	1/6W	CARBON	
	RA101	QRB069J-103	10K	1/10W	R.NETWORK	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMG7331-001	FUSE CLIP	
		E11681-003	**PC BOARD**	F
		E11681-003	**PC BOARD**	G
		E11681-003	**PC BOARD**	I
		E11681-003	**PC BOARD**	J
		E11681-003BS	**PC BOARD**	HBS
		E65508-002	TAB	G
		E65508-002	TAB	HBS
		E65508-002	TAB	I
		E65508-002	TAB	J
		E67132-T1R25	FUSE LABEL	G
		E67132-T1R25	FUSE LABEL	HBS
		E67132-T1R25	FUSE LABEL	I
		E67132-T1R25	FUSE LABEL	J
		E67764-203	WRAPPING TERMINAL	G

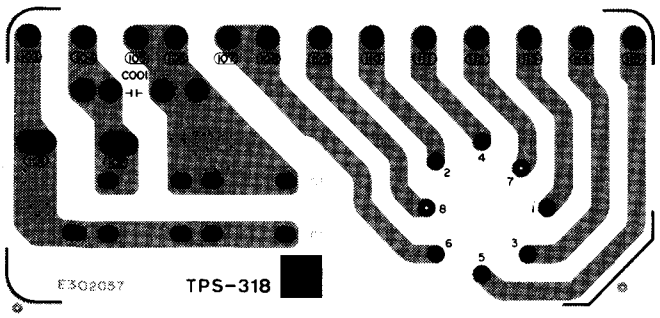
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E67764-203	WRAPPING TERMINAL	HBS
		E67764-203	WRAPPING TERMINAL	I
		E67764-203	WRAPPING TERMINAL	J
		E70945-H35	**HEAT-SINK**	
		E70945-H35	**HEAT-SINK**	
		SBSB3008CC	SCREW	
		SBSB3008CC	SCREW	
	J101	EMV5103-002A	PLUG ASSY	
	J102	EMV7122-005Z	CONNECTOR	
	J103	EMV7122-003Z	CONNECTOR	
	J110	EMV7122-004Z	CONNECTOR	
	J111	EMV7122-004Z	CONNECTOR	
	J181	QMS3533-001	MINI JACK	
	J201	EMN00TV-402A	4P PIN JACK	
	J202	EMN00TV-402A	4P PIN JACK	
	J203	EMN00TV-602A	6P PIN JACK	
	J204	EMN00TV-602A	6P PIN JACK	
	J702	EMB90YV-401A	SPEAKER TERMINAL	
	J751	QMS6312-023	HEADPHONE JACK	
	J752	EMN00YV-206A	2P PIN JACK	
	J801	E67764-103	WRAPPING TERMINAL	
	J801	QMA1221-009	DC JACK	
⚠	S001	QSP1106-004	POWER SWITCH	F
⚠	S001	QSP1106-004	POWER SWITCH	G
⚠	S001	QSP1106-004	POWER SWITCH	I
⚠	S001	QSP1106-004	POWER SWITCH	J
⚠	S001	QSP1106-004BS	POWER SWITCH	HBS
	S111	ESP0001-018	TACT SWITCH	
	S112	ESP0001-018	TACT SWITCH	
	S113	ESP0001-018	TACT SWITCH	
	S114	ESP0001-018	TACT SWITCH	
	S115	ESP0001-018	TACT SWITCH	
	S116	ESP0001-018	TACT SWITCH	
	S401	QST4102-E07	PUSH SWITCH	
	CX101	ECX0004-194KM	RESONATOR	
	FW102	EWR35B-25LST	FLAT WIRE	
	FW103	EWR23C-30LN	FLAT WIRE	
	FW104	EWR23C-25NN	FLAT WIRE	
	FW106	EWR39B-30SST	FLAT WIRE	
	FW107	EWR34B-25SST	FLAT WIRE	
	FW108	EWR37B-25LST	FLAT WIRE	
	FW109	EWR36B-25LST	FLAT WIRE	
	FW110	EWR34B-16LST	FLAT WIRE	
	FW111	EWR34B-35LST	FLAT WIRE	
	JT101	EMV7122-003Z	CONNECTOR	
	JT102	EMV7122-004Z	CONNECTOR	
	JT103	EMV7122-003Z	CONNECTOR	
	JT104	EMV7122-003Z	CONNECTOR	
	RY901	ESK5D24-218	RELAY	
	FW202	**EWR23C-25LN**	**FLAT WIRE**	

⚠ : SAFETY PARTS

■ TPS-318 Ⓒ Voltage Selector PC Board Ass'y

(Except for Europe, Australia, West Germnay, U.K.)



CAPACITORS

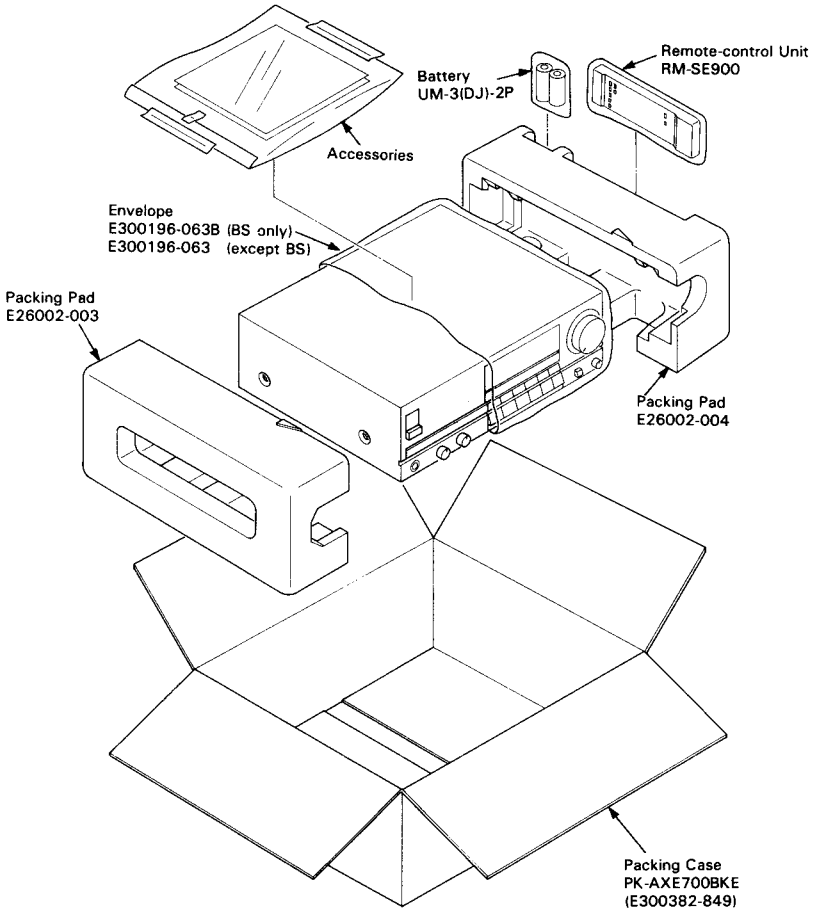
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C001	QCZ9038-103	0.01MF		CERAMIC	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E302057-002	**PC BOARD**	
		E65508-002	TAB	
		E67764-302	WRAPPING TERMINAL	
		E67764-303	WRAPPING TERMINAL	
		E67764-304	WRAPPING TERMINAL	
⚠		QMC0637-004	AC OUTLET	
⚠		QSR0085-008U	VOLTAGE SELECTOR	

⚠ : SAFETY PARTS

Packing Materials and Part Numbers



Accessories List

⚠	Parts Number	Parts Name	Description	Areas
	E30580-1466A	Instruction Book		except for BS
	E30580-1466ABS	Instruction Book		BS only
	E43486-340A	Safety Sheet	includes the Instruction Book.	BS only
	BT20029C	Warranty Card		A
	BT20064A	Warranty Card		G
	QZL1008-001	Information Sheet		G
	BT20060	Warranty Card		BS
	BT20066	EEC Agency		G,BS
	BT20048B	Warranty Card		P,PG
	BT20046C	Service Information		P,PG
⚠	E04056	Siemens Plug		U,PG
	E300196-033	Envelope	for the Inst.Book, W.Card, etc.	except for BS
	E300196-033B	Envelope		BS only
⚠	QMF51A2-2R5S	Fuse	T2.5A / 250V	U,PG
⚠	QMF51A2-1R25S	Fuse	T1.25A / 250V	P
	E67142-T2R5	Fuse Label	T2.5A	U,PG
	E67142-T1R25	Fuse Label	T1.25A	P
	E6581-4	Envelope	for the Fuse	U,P,PG

Note: The Marks for Designated Areas
E ····· Europe
A ····· Australia
G ····· West Germany
BS ····· U.K.
P,PG ····· U.S.Military Market
U ····· Other Countries
No Mark indicates all areas.

⚠:Safety Parts